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THE INCIDENCE OF UNEMPLOYMENT IN CANADA 1961-1970: A REGIONAL, INDUSTRY AND LABOUR FORCE GROUPS ANALYSIS

by

© Mally Odwori - Mboko

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "The Incidence of Unemployment in Canada 1961-1970: A Regional, Industry and Labour Force Groups Analysis", submitted by Mally Odwori - Mboko, in partial fulfilment of the requirements for the degree of Master of Business Administration.

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ABSTRACT

During the 1960's Canada enjoyed a period of economic prosperity in which the volume of total output and total employment greatly expanded. At the same time, the Sixties have been a decade of relatively higher levels of unemployment compared to the Fifties. Rather than be concerned solely with the levels of unemployment, the central thesis in this study is to determine whether the growth which has occurred in the Canadian economy has had any impact on the structure and pattern of unemployment during this period. The study covers unemployment by region, industry, occupation, age, sex and marital status labour force groups from 1961 to 1970.

In each of the above labour force groups the average annual rate of unemployment was used to determine the incidence of unemployment by obtaining the percentage distribution of unemployment in the group. This burden of unemployment as carried by each labour force group was obtained for the selected years 1961, 1966 and 1970 with the purpose of finding out if this burden had at all changed. The results of this analysis do indicate that for all the regional and labour force groups considered, the incidence of unemployment has remained at large unchanged despite the rapid economic growth which has taken place during this period.

With the above results in mind, quarterly unemployment rates for each labour force group were used in a correlation and regression analysis with the national rate of unemployment to determine by how much the group unemployment rates would change when the national rate changed by one per

cent. This analysis was based on a regression equation of the form $y = a + bx$, where x, the independent variable, is the national rate of unemployment while y, the dependent variable, is the labour force group unemployment rate. The results of this analysis show a very high correlation between each group unemployment rate and the national rate of unemployment. Regression equations obtained give very reliable estimates of the group rates of unemployment once the national rate is given. Besides their predictive use, the regression results further highlight the wide disparity in the regional and labour force group rates of unemployment as well as the disparity in the incidence of unemployment.

The overall picture which has emerged from this study is that the structure and pattern of unemployment has remained insensitive to the changes which have occurred in the Canadian economy during the 1960's. As a result of this, the incidence of unemployment for the regional and labour force groups has not changed over this period. This seems to suggest that changes in the Canadian economy during the Sixties took place without significantly transforming the economic base and therefore failed to effect change in the structure and pattern of unemployment.

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CHAPTER I

INTRODUCTION

The Canadian Economy

The 1960's constitute a decade of enormous economic growth in Canadian economic history. The Economic Council of Canada's Fourth Annual Review has pointed out that,

> As of June 1967 the Canadian economy has been expanding without a significant reversal since the business cycle trough in March 1961. The expansion had thus lasted 75 months. This represents probably the longest uninterupted expansion...in Canadian business cycle history.[1]

The report goes on to add that, "Since 1961, Canada has in fact experienced what could appropriately be described as a Great Expansion".[2] In short, as the report emphasises, this has been a decade with the largest expansion in terms of absolute rise in the volume of total output and total employment.

Against this general background of expansion in output and employment is the fact that this same decade has been a period of relatively higher unemployment rates. As Pietchinis points out, "through most of the twenty-two year period (1946-1968) the trend of unemployment has been upward".[3] Even at the international level, the Economic Council of Canada states in its First Annual Review that,

> ...unemployment in Canada...has been substantially higher than unemployment in other industrially advanced countries, especially those in Western Europe.[4]

This apparent contradiction__high unemployment rates amid economic prosperity__is a result of a number of different but related factors.

The first factor is the fact that this expansion in the Canadian economy has over time generated inflationary pressures in the economy. Inflation, if not contained, would in time lead to a slow down in economic growth and thereby lead to increased unemployment. Secondly, this fear that unless inflation is contained it would have adverse effects on the economy, has prompted the government especially in the last quarter of this decade, to slow down the economy in an effort to control inflation. The effect of this policy has on the whole led to an increased level of unemployment. This slowdown in the economy and the resultant unemployment would over time lead to a general lowering of income levels and thereby reduce purchasing power and aggregate demand, thus further depressing the economy and leading to more unemployment. This phenomenon has been widely referred to in economic literature as "unemployment feeds on itself".

Thirdly, the government either fearing further aggravation of the unemployment situation, or hoping that inflation has been halted or both has now embarked on policies designed to stimulate the economy. However this has met with a number of contradictions both in Canada and in the United States. As Boehne has pointed out, "inflation is turning out to be less sensitive and unemployment more sensitive to a slack economy than previously hoped".[5] In short, the idea that the economy can be easily turned off and on any time has lost credibility to the fact that it is very easy to turn it off, but extremely difficult to turn it on immediately. Even when it has been turned on there still remains the problem of determining at what rate the economy should grow without incurring additional inflation and how long it will take to achieve the required levels of employment. This has been summed up by Boehne when

he observed that,

> ...speeding up the economy...to reduce unemployment is complicated by inflation. Too rapid a recovery will accelerate inflation; too slow a recovery...will mean even more unemployment.[6]

This is further complicated by the evidence which Willes cites to the effect that "attempts to keep unemployment below its 'natural' rate will require increasing rates of change in prices."[7]

Fourthly, this rapid rate of economic growth has been accompanied by a structural change in the economy as a whole, with the results that a number of sectors and indeed individual industries have experienced uneven rates of growth. The Economic Council's Sixth Annual Review points out that,

> Over the whole course of the economic expansion of the 1960's, the growth of various components of demand has been quite uneven,...This variability in the rate of growth in demand in various parts of the economy has compounded the inherent difficulties of simultaneously achieving and maintaining smooth and sustained overall growth, high employment, reasonable price stability and balance of payments viability.[8]

The point to note here is that since the demand for labour is a derived demand emanating from the demand for goods and services in the economy, the above pattern of economic growth should lead to a change in the structure and pattern of unemployment over time. Related to this notion is Pietchinis' observation that,

> ...the kind of economic growth experienced in the Canadian economy involves the deployment of new processes of production, more sophisticated machinery and equipment, and the development and production of new products, all of which require the employment of high level skills.[9]

On the whole a generalization can be made that the type of economic growth Canada has experienced has been characterised by uneven growth in various parts of the economy and has been in favour of higher skill and against

low skill workers. From this it could be inferred that this type of economic growth can create employment and unemployment at the same time.

Fifthly, the supply side of the labour force has also seen drastic changes in recent years both in the number of young people entering the labour force and also in the increase of female participation rates. As Walters has pointed out,

> Between 1950 and 1967, the number of young people aged 15-19 years increased by 75 per cent in Canada. (Those) 20-24 years by 40 per cent. This dramatic growth in the number of young people provided a basic element of the large increase in the labour force in Canada.[10]

In the same study Walters has indicated that the second most dynamic feature of the labour force change has been in female participation rate which has increased from 23 per cent in 1950 to 34 per cent in 1967. Given this situation it is possible that unless the rate of economic growth keeps pace with the rate of increase in the labour force, unemployment can increase at a time when employment is growing.

In conclusion it can be said that because of the factors discussed above it is possible for unemployment to grow during a period of economic prosperity and growing employment. In the case of Canada this has actually happened, but what is not so certain is whether this economic growh has changed the structure and pattern of unemployment during the period 1961 to 1970.

The scope and purpose of the study

It has so far been established that Canada during the 1960's has experienced higher rates of unemployment then during the 1950's. Unemployment can be studied as an economic phenomenon in which labour as a factor of production is not being utilized, and since it does not lend itself to storage, this unutilized labour is lost to the economy for good.

In this respect, the rate of unemployment is an index of labour capacity utilized and therefore is one of the most important measures of the performing efficiency of the economy. Another way of looking at the unemployment is to view human labour as a source of livelihood__source of income and social security__in which case unemployment constitutes a loss of livelihood. Viewed in these terms, unemployment assumes both economic and social dimensions whose ultimate effects go beyond the immediate unemployed member of the labour force. The exact extent of these effects will depend largely on the size and duration of unemployment in the economy.

Irrespective of the viewpoint taken, a study of unemployment requires not only knowledge about the causes and size of unemployment, but also the regional, occupational, industry, age and sex distribution of unemployment over time. The idea here is that an attempt should be made to reveal what lies behind the usual quarterly or annual rates of unemployment. This can be done by answering questions like who is unemployed? Where is he located by region, industry and occupation, what is his age and sex? How often is he a victim of unemployment? These questions are suggestive rather than exhaustive, and answers to them would contribute to the knowledge and understanding of the phenomenon of unemployment.

The purpose of this study is to determine the incidence of unemployment in Canada for the period 1961 through to 1970. In line with the questions raised above, this study will deal with the regional, industry, occupational, age, sex and marital status distribution of the Canadian labour force. Unemployment rates for all these labour force groups will be taken on a quarterly and annual basis. The first objective

is to make a comparative analysis of the incidence of unemployment in these labour force groups with the intention of discovering how each group compares with other groups in the labour force. The analysis will use factors like how the group rates differ from the national rate, the percentage distribution of the burden of unemployment among regions and labour force groups, the percentage change during the recovery and the recession in the economy and the overall change in the unemployment over the entire period. The incidence of unemployment will in this study mean the burden of unemployment carried by a given region or labour force group. This will be measured in terms of the percentage distribution of unemployment.

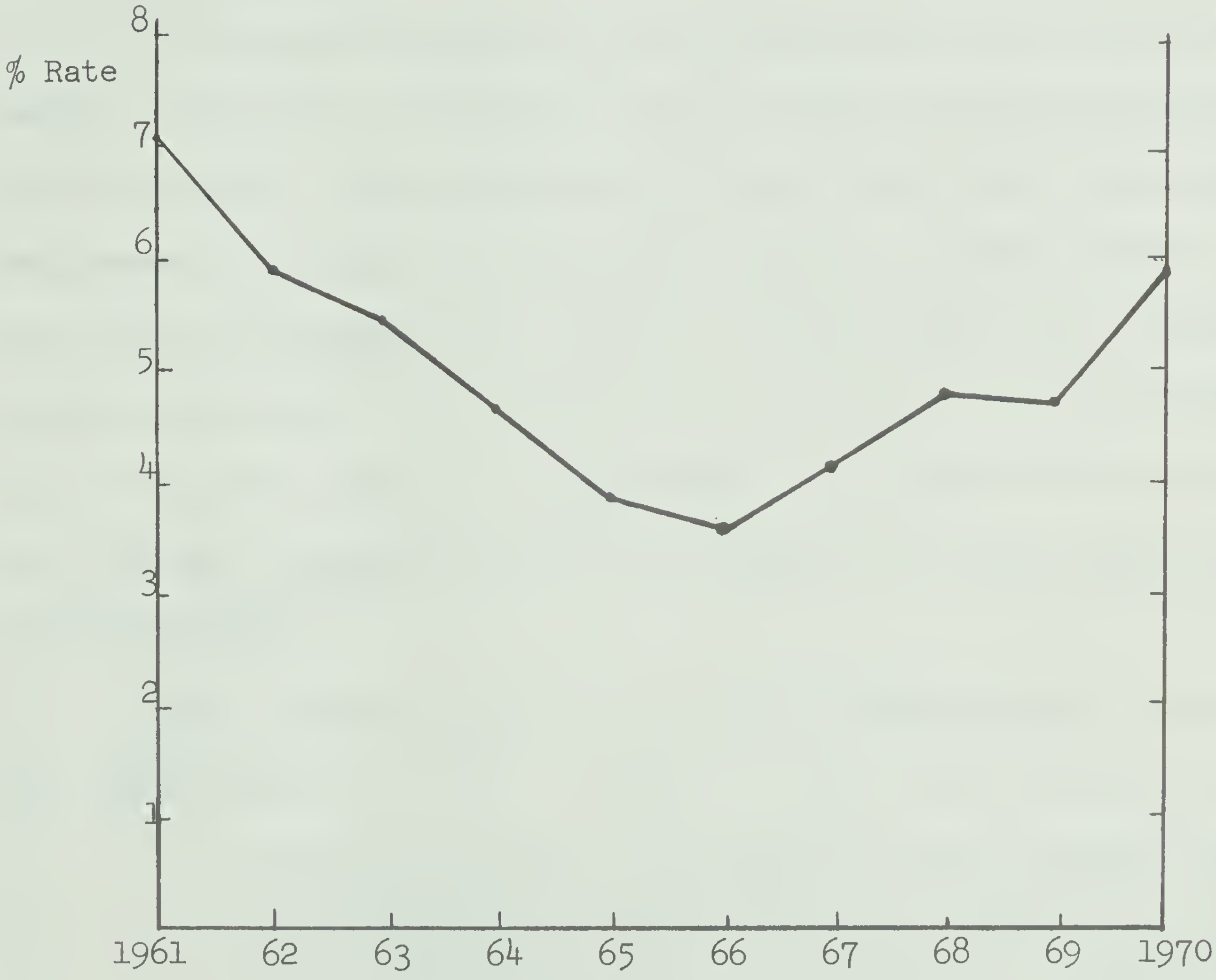
The second objective is to develop labour force group regression equations using quarterly and annual data where the quarterly data is not available. The purpose here is to utilize the historical data in an attempt to estimate future group unemployment rates by determining by how much a given change in the national level of unemployment will affect each labour force group in the economy. However, the predictive value of these regression lines will depend largely on whether unemployment in each group has shown a stable pattern in relation to the economic situation in the country over time.

Important to the study as a whole is the choice of the period 1961 to 1970. This period was chosen first because there was good data available and also because unemployment rates have been higher relative to any period since the end of the Second World War. Secondly, the need to control inflation has led to government policies which have contributed towards higher unemployment rates. These two factors together make the study of unemployment over this time period both timely and revealing.

Thirdly, this same time period constitutes what the Dominion Bureau of Statistics has referred to as a cycle of unemployment during which unemployment moved from a peak (1961) to a trough (1965-1966) and back up again (1970). This is indicated in Figure I-1 and serves to dermacate it as a distinct time period.

The organization of this study will follow the following pattern:- first the regional structure and pattern of unemployment will be discussed and then be followed by male and female labour force groups broken down in age groups. This will be followed by marital status, industry and occupational distribution of the labour force. A summary view will conclude the study.

Figure I-1
CANADA UNEMPLOYMENT RATE 1961-70



CHAPTER II

THE REGIONAL INCIDENCE OF UNEMPLOYMENT 1961-70

The general situation

For regional analysis Canada is generally divided into five regions: the Atlantic provinces, Quebec, Ontario, the Prairies and British Columbia. This division does not mean that these regions are homogeneous, but rather that they have a number of common features which bind them together into a region. In this study, this regional grouping will be used. The discussion will centre on regional disparities with special emphasis on unemployment. The analysis will cover inter-regional comparison as well as a comparison between regions and Canada as a whole.

As it has been pointed out already, Canada enjoyed a prosperous decade during the 1960's. Officer and Smith have pointed out that,

> "During the 1960's, the Canadian economy expanded rapidly and virtually without interruption. Between the first quarter of 1961 and the first quarter of 1969 real output in Canada increased by 60 per cent, real expenditure on business fixed investment rose by 64 per cent, and real personal consumption increased by 51 per cent in the aggregate and by 31 per cent on a per capita basis."

Economic growth, however, is not an equilibrium process and as such it tends to be uneven over time as well as in spatial distribution. Canada being a large country (in area) this uneven process of growth is likely to be more pronounced especially when the time dimension is considered. This point has been emphasized by Brewis when he stated that,

> In Canada, as elsewhere, economic growth follows an irregular pattern overtime...not only has the pace of development varied overtime, but it has been unevenly distributed over the country as a whole, with the result that income and employment opportunities differ markedly from one part of the country to another. In certain cases, as the recent development of oil and gas resources, the expansion of a particular area has been at the direct expense of others.[12]

The above observations point to the fact that while Canada has experienced a rapid rate of economic growth, she has over time developed regional disparities especially in income and employment opportunities. As a result of this, unemployment has been unevenly distributed thereby causing a high variation in the burden of unemployment carried by each region. This fact is well illustrated in Figure II-1 and Table II-1, see also Appendix A.

TABLE II-1

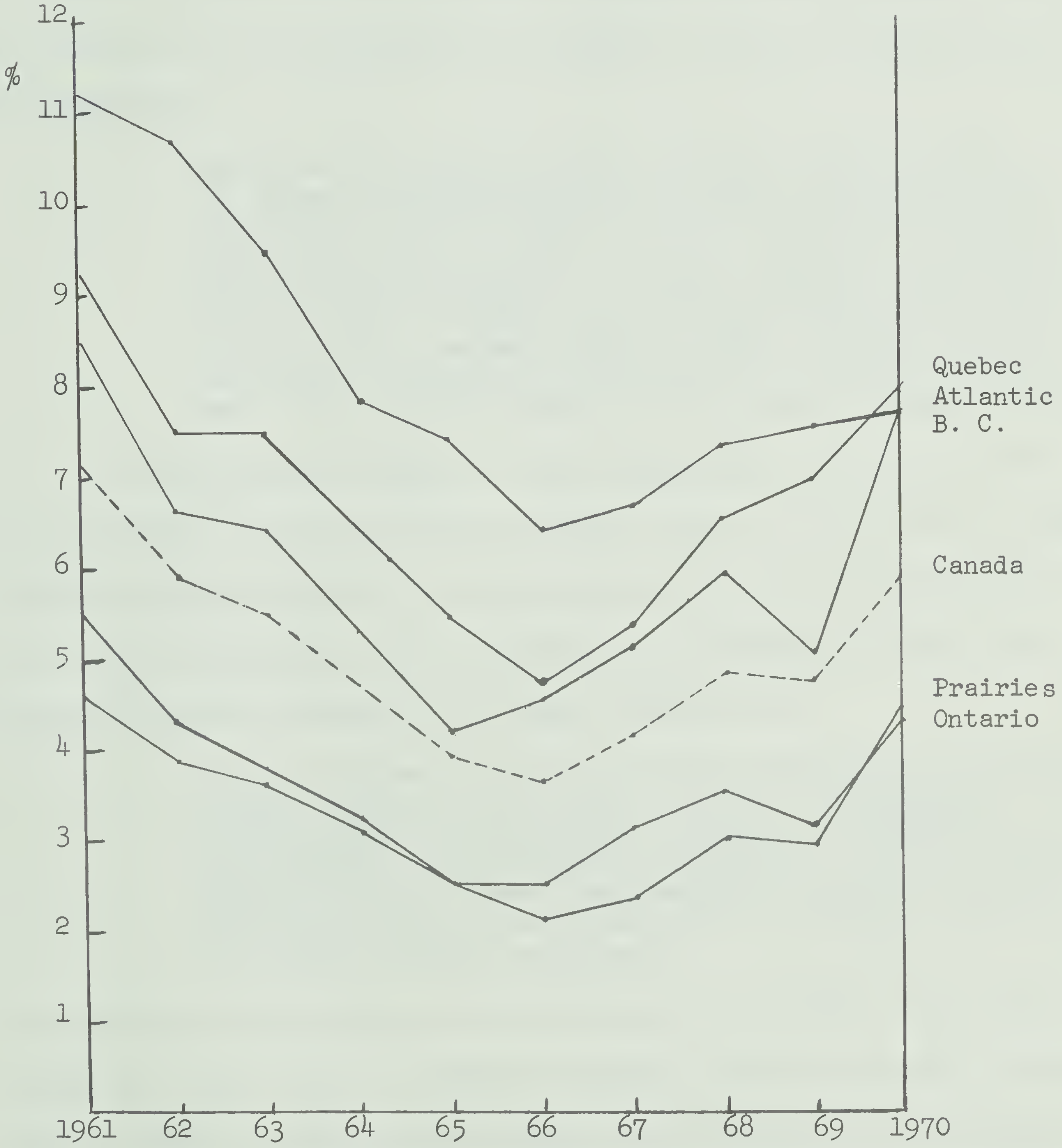
CANADA AND REGIONAL UNEMPLOYMENT RATES 1961 - 70 (Annual Averages)

YEAR	ATLANTIC	QUEBEC	ONTARIO	PRAIRIE	BRITISH COLUMBIA	CANADA
1961	11.2	9.2	5.5	4.6	8.5	7.1
1962	10.7	7.5	4.3	3.9	6.6	5.9
1963	9.5	7.5	3.8	3.7	6.4	5.5
1964	7.8	6.4	3.2	3.1	5.3	4.7
1965	7.4	5.4	2.5	2.5	4.2	3.9
1966	6.4	4.7	2.5	2.1	4.5	3.6
1967	6.6	5.3	3.1	2.3	5.1	4.1
1968	7.3	6.5	3.5	3.0	5.9	4.8
1969	7.5	6.9	3.1	2.9	5.0	4.7
1970	7.6	7.9	4.3	4.4	7.6	5.9

Source: Dominion Bureau of Statistics, Seasonally Adjusted Labour Force Statistics.

In Table II-1 above it can be seen that in 1961 when the level of regional unemployment rates were highest, the Atlantic region averaged 11.2 per cent, while the Prairies,with the lowest rate in that year, ave-

FIGURE II-1
CANADA AND REGIONAL UNEMPLOYMENT RATES 1961-70



raged only 4.6 per cent. In 1966 when the regional rates were lowest for the whole period, the Atlantic region registered 6.4 per cent which was 3 times the rate in the Prairies of 2.1 per cent. At the close of the period under study in 1970, the Atlantic region still had 1 3/4 times the rate in the Prairies. This, however, is not to suggest that the Atlantic region was stagnant, on the contrary, as the Atlantic Provinces Economic Council has pointed out,

> The theme that emerges from an analysis of the economy of Atlantic Canada during the sixties is that the region experienced substantial growth, particularly during the earlier half of the decade. It was a period when regional output increased rapidly. In fact, the Gross Regional Product in current dollars of the Atlantic Provinces climbed by 85 per cent, between 1960 and 1968. Personal income of the region increased by 112 per cent. New capital investment in the region climbed by 140 per cent in the sixties.[13]

What this does suggest is that despite the substantial growth in the Canadian economy during the sixties, there is a set pattern in the structure and distribution of unemployment which has persisted overtime and is almost unresponsive to the growth in the economy. In fact, the Economic Council of Canada in 1967 made a remark that,

> It is a suprising fact that, despite considerable differences between regions in the rates of growth of employment between 1961 and 1966, the disparities in the structure of unemployment remained largely unchanged...persistent regional pockets of unemployment have therefore existed, and these have proved to be rather insensitive to changes in the tides of overall economic activity.[14]

At the close of the sixties this situation had not changed, and in fact in 1969 the Council went on record to say that, "during the 1960's there does not appear to have been any change in the tendency for unemployment to move up very rapidly in the low income regions of Eastern Canada whenever the overall rate of unemployment rises, and to remain well above the national average, even when the latter is relatively low".[15] Brewis noting

the high correlation of unemployment rates among regions has concluded that "...there are forces at work which tend to influence all regions in the same direction but, and what is no less striking is that the impact of changes in the general level of activity is very unevenly distributed."[16]

With these observations in mind the study will now deal with the overall structure in the regional unemployment rates, the differences between regions, and then make a comparison between each region and the national rate of unemployment. The purpose is first to discover if there was a constant pattern in the regional rates of unemployment for the period 1961-70. Secondly, this analysis will help to indicate the size of the burden of unemployment in each region, using mainly the regional percentage distribution of unemployment. Thirdly, utilising the above information, a cross-regional comparison of the unemployment situation will be made, for the whole period. Here the main comparison will be on how well each region fared compared to the mean national rate. The burden of unemployment will be given in terms of the regional percentage distribution based on each region's mean unemployment rate.

The 1961-70 mean regional rates of unemployment are given in Table II-2 which also gives the mean regional rate difference from the mean national rate of 5.0 per cent. The negative differences indicate that the regional mean was below the national mean and vice-versa. From these differences a percentage difference was calculated using the national mean as the base. The percentage distribution figures were derived from the regional means using the total of all the mean regional rates as the base. When interpreting the percentage distribution figures it should be remembered that they are based on the level of unemployment and not the total labour force as such.

TABLE II-2

1961-70 MEAN REGIONAL UNEMPLOYMENT RATES

REGION	MEAN RATE	DIFFERENCE FROM NATIONAL MEAN (5.0)	DIFFERENCE AS % NATIONAL MEAN	% DISTRIBUTION OF UNEMPLOYMENT
Atlantic	8.2	3.2	64 %	29 %
Quebec	6.7	1.7	34 %	24 %
Ontario	3.6	- 1.4	- 28 %	13 %
Prairies	3.3	- 1.7	- 34 %	13 %
B.C.	6.0	1.0	20 %	21 %
				100 %

Looking at Table II-2 it can be seen that while the Atlantic region had the highest mean rate of 8.2 per cent followed by Quebec with 6.7 per cent, the Prairie region had the lowest mean rate of 3.3 per cent followed by Ontario with 3.6 per cent. British Columbia lies in between these two groups with 6.0 per cent. In terms of the regional mean difference from the national mean, it is suprising that the Atlantic region had 3.2 times the difference between British Columbia (with the least variation) and the national mean. This is even brought out more clearly with the percentage differences.

Looking at Figure II-1 it can be observed that the regions array themselves starting with highest rates of unemployment to the lowest in the following order:- Atlantic region, Quebec, British Columbia, Ontario, and the Prairies. During the whole period under study (1961-70), this pattern persisted except for the year 1970 when Quebec and the Atlantic region, Ontario and the Prairies changed positions, but even then the differences were very small, 0.3 per cent in the case of Quebec and the Atlantic region, and only 0.1 per cent for Ontario and the Prairies. Another striking fact indicated in Figure II-1 is that when the national

rate is plotted together with the regional rates, Atlantic provinces, Quebec and British Columbia lie above, while Ontario and the Prairies lie below the national rate for the entire period 1961 to 1970. Using unemployment rate as a criterion, it can be said that for the period 1961 to 1970 the five regions of Canada could be conveniently divided into two groups: those with annual level of unemployment constantly above and those constantly below the national unemployment level. This pattern is not limited to this period, it goes at least a decade back. In a study going as far back as 1951, Pietchinis observes that,

> It is interesting to note that with the exception of British Columbia whose rate fluctuates above and below the national average, there is a high degree of consistency in the relationship among other rates: regardless of the level of unemployment, the rate prevailing in the Atlantic region is the highest, that of the Prairie region is the lowest, with Quebec just below the former, and Ontario just above the latter.[17]

A comparative analysis

In order to gain a clear understanding of this pattern and structure in the regional unemployment situation a number of tables and charts have been developed mainly from the annual averages for the purpose of aiding this analysis. In the first analysis the mean 1961-70 regional rates of unemployment derived from quarterly data will be used to give the regional overall picture where it can be seen that whereas the Atlantic region had a 64 per cent difference from the national mean, British Columbia had only a 20 per cent difference. This is a 44 per cent difference between the Atlantic region and British Columbia, but comparing the Prairie region with the Atlantic region gives a pretty high difference of 98 per cent. What this means in other words is that the Atlantic region was 64 per cent worse off than the national mean, but also that it was 98

per cent worse off in terms of unemployment incidence than the Prairie region. By the same token, British Columbia was 54 per cent worse off than the Prairies while Quebec and Ontario were each worse off by 68 and 6 per cent respectively. Similar comparisons can be made using the data provided in Table II-2.

Another aspect of this analysis is to gain insight into the overall unemployment burden carried by each of the five regions of Canada. This is shown in the percentage distribution of unemployment in Table II-2. Here it can be observed that the Atlantic region carried 29 per cent of the burden, Quebec 24 per cent, British Columbia 21 per cent while Ontario and the Prairies each carried 13 per cent of the burden. In essence Ontario and the Prairies put together carried 3 per cent less burden than the Atlantic region, and only 2 per cent more than Quebec. Another way of looking at it is that both the Atlantic Region and Quebec carried 53 per cent of the unemployment burden while Ontario, the Prairies and British Columbia shared the remaining 47 per cent. Even here it should be pointed out that British Columbia carried almost half of the burden of this remaining 47 per cent.

The second analysis is to be based on the years 1961, 1966 and 1970 to carry out similar analysis as the one made above. The purpose here is to see whether there was any change from the general pattern obtained from the mean data. The year 1961 was chosen not only because it is the first one in the period under study, but it also happens to be the one with the highest rate of unemployment during this period. For 1966, it was the year with the lowest rate of unemployment for every region except British Columbia which had the lowest rate in 1965 (see Figure II-1). The year 1970 happens to be the last one included in this study, and at the

same time it had the next highest rates of unemployment after 1966. As pointed out in Chapter I, this ten - year period from 1961 to 1970 constitute an unemployment cycle in which the years 1961, 1966 and 1970 are the turning points__a peak, a trough and a peak again in that order.

The 1961 regional unemployment rates are given in Table II-3.

TABLE II-3

1961 REGIONAL UNEMPLOYMENT RATES AND PERCENTAGE DISTRIBUTION

REGION	RATE	DIFFERENCE FROM NATIONAL RATE (7.1%)	DIFFERENCE AS % OF NATIONAL RATE	REGIONAL % DISTRIBUTION
Atlantic	11.2	4.1	58 %	29 %
Quebec	9.2	2.1	30 %	23 %
Ontario	5.5	- 1.6	- 23 %	14 %
Prairies	4.6	- 2.5	- 35 %	12 %
B. C.	8.5	1.4	20 %	22 %
				100 %

It will be seen from Table II-3 that the Atlantic Region had the highest rate (11.2%) followed by Quebec (9.2%) and British Columbia (8.5%). These three regions were above the national rate of unemployment (7.1%). Below the National rate were the Prairies (4.6%) followed by Ontario (5.5%). This situation conforms with what has been observed above when discussing the 1961-70 mean regional rates. Looking at the regional variation from the National rate it can seem from Table II-3 that the Atlantic region had the largest variation (4.1%) and that this is 3 times that of British Columbia (1.4%), this is almost what it was (3.2%) for the 1961-70 mean regional rates.

The 1961 percentage difference in Table II-3 bring out the fact that the Atlantic region had a 58 per cent difference in 1961 as opposed to 64 per cent for the 1961-70 mean rate. In other words this is a

change of 6 per cent, and in a similar manner Quebec had a 4 per cent change from 34 per cent for the mean rate to 30 per cent in 1961. Ontario on the other hand had changed by 5 per cent from - 28 per cent to - 23 per cent. The Prairie region had a 1 per cent change while British Columbia remained the same at 20 per cent in 1961 as for the 1961-70 mean rate.

Turning to the 1961 percentage distribution of unemployment given in Table II-3 it can be seen that there was little change from the 1961-70 mean percentage distribution. The Atlantic region had the same 29 per cent of the unemployed in 1961 as it had for the period 1961-70. The other regions each changed by only 1 per cent up or down so that as far as the unemployment burden is concerned there was hardly any change. This conclusion is indeed surprising when it is recalled that the 1961 level of unemployment rates were way above the 1961-70 mean regional rates. In short, despite wide differences the level of unemployment rates between 1961 and the mean rates of 1961-70, the structure and burden of unemployment are basically the same for both periods.

The next set of data is for the year 1966 during which the level of regional unemployment rates was lowest for the period 1961 to 1970. The data is given in Table II-4 where it will be seen that the Atlantic region still had the highest rate 6.4 per cent, followed by Quebec with 4.7 per cent and British Columbia with 4.5 per cent. Below the national rate of 3.6 per cent were the Prairies with 2.1 per cent and Ontario with 2.5 per cent.

TABLE II-4

1966 REGIONAL UNEMPLOYMENT RATES AND PERCENTAGE DISTRIBUTION

REGION	RATE	DIFFERENCE FROM NATIONAL RATE (3.6%)	DIFFERENCE AS % OF NATIONAL RATE	REGIONAL % DISTRIBUTION
Atlantic	6.4	2.8	78 %	32 %
Quebec	4.7	1.1	31 %	23 %
Ontario	2.5	- 1.1	- 31 %	12 %
Prairie	2.1	- 1.5	- 42 %	11 %
B. C.	4.5	0.9	25 %	22 %
				100 %

The percentage differences given in Table II-4 indicates that the Atlantic region was 78 per cent worse off compared to the national rate, while British Columbia was only 25 per cent worse off. In other words, looking at the differences from the national rate, the Atlantic region was 3 times that of British Columbia from the national rate. This comparison, it will be recalled, yields the same results as that for the year 1961 and about the same for the 1961-70 mean regional rates. The startling fact is that the Atlantic region had to change from 58 per cent in 1961 to 78 per cent in 1966 (a 20% change) just to keep the same position with British Columbia's change from 20 per cent in 1961 to 25 per cent in 1966 (a 5% change). In short, this suggests that for every 1 per cent change from the national rate by British Columbia, the Atlantic region changed by 4 per cent in the same direction. For Quebec on the other hand although the actual rate of unemployment fell by almost half from 1961 to 1966, the region was 31 per cent worse off in 1966 just as it was in 1961 when it was 30 per cent worse off. This could be explained by the fact that the national rate fell by almost half from 1961 when it was 7.1 per cent to 1966 when it was 3.6 per cent, and since Quebec changed by the

same magnitude, she was in the same position vis-a-vis the national rate in 1961 as in 1966. Both the Prairies and Ontario outperformed the national rate by 42 per cent and 31 per cent respectively.

The percentage distribution of regional unemployment in 1966 given in Table II-4 indicates that both Quebec and British Columbia in 1966 carried 23 per cent and 22 per cent respectively exactly the same percentages they carried in 1961. For the Atlantic region her burden of unemployment increased from 29 per cent in 1961 to 32 per cent in 1966. The Prairies and Ontario each lowered their burden of unemployment by 1% and 2% respectively in 1966 from the 1961 level i.e., Ontario and the Prairies both gained 3% at the expense of the Atlantic region. It can be safely concluded from this data that the percentage distribution of unemployment in 1966 is not any different from what it was in 1961. This lends support to the observation made above by the Economic Council of Canada that "despite considerable differences between regions in the rates of growth of employment between 1961 and 1966, the disparities in the structure of unemployment remained largely unchanged."[18]

One possible explanation comes out when the percentage changes in the rates of unemployment are given for Canada and the regions from the year 1961 to 1966 (see Table II-5). It will immediately be seen that both Canada and Quebec each changed by 49 per cent while the Atlantic region changed by 52 per cent. The Prairies and Ontario each changed by 54 per cent and 55 per cent respectively, while British Columbia with the least change, changed by 47 per cent. Although this change was very large, its distribution was more even so that the range between British Columbia (47%) with the least change and Ontario (55%) with the largest change is very small, only 8 per cent. Thus, the regional disparities

which existed in 1961 were perpetuated through to 1966.

TABLE II-5

CANADA AND REGIONAL PERCENTAGE CHANGE IN UNEMPLOYMENT RATES 1961-66

	1961	1966	CHANGE	CHANGE % OF 1961
Canada	7.1	3.6	3.5	49 %
Atlantic	11.2	6.4	4.8	52 %
Quebec	9.2	4.7	4.5	49 %
Ontario	5.5	2.5	3.0	55 %
Prairies	4.6	2.1	2.5	54 %
B. C.	8.5	4.5	4.0	47 %

The period 1961-66 which has just been discussed was one of declining rates of unemployment, though as it has been pointed out the structure of unemployment remained basically unchanged during this period. The next section will discuss the period 1966-70 when the regional rates of unemployment were rising and then compare it with the period 1961-66 already discussed above.

In 1970 the general level of regional unemployment rates were very high compared to 1966 though they were a bit low compared to 1961. For once, in 1970, the Atlantic region not only took second place, but it also tied with British Columbia with 7.6 per cent, Quebec was leading with 7.9 per cent, while the national rate was 5.9 per cent. Ontario and the Prairies each recorded 4.3 and 4.4 per cent respectively and were below the national rate as usual. (Data is presented in Table II-6).

TABLE II-6

1970 REGIONAL UNEMPLOYMENT RATES AND PERCENTAGE DISTRIBUTION

REGION	1970 RATE	DIFFERENCE FROM NATIONAL RATE (5.9%)	DIFFERENCE AS % OF NATIONAL RATE	REGIONAL % DISTRIBUTION
Atlantic	7.6	1.7	29 %	24 %
Quebec	7.9	2.0	34 %	25 %
Ontario	4.3	- 1.6	- 27 %	13 %
Prairies	4.4	- 1.5	- 25 %	14 %
B. C.	7.6	1.7	29 %	24 %
				100 %

Looking at the data in Table II-6 it can be observed that in 1970 the regional variation from the national rate was very small, the highest being Quebec with 2.0 per cent or as a percentage of the national rate 34 per cent while both the Atlantic region and British Columbia each recorded 29 per cent above the national rate (5.9%). Ontario and the Prairies on the other hand were each better than the national rate by 27 and 25 per cent respectively.

The percentage distribution of unemployment as given in Table II-6 indicates that both the Atlantic region and British Columbia each carried a burden of 24 per cent of unemployment. From the 1966 level the Atlantic region had improved by 8 per cent, while British Columbia and Quebec each deteriorated by 2 per cent, Ontario by only 1 per cent and the Prairies by 3 per cent from 1966 to 1970. The general picture which seems to emerge from this analysis is that in 1970 only the Atlantic region improved over her situation in terms of regional percentage distribution of unemployment by 8 per cent from the 1966 level. All other regions showed a deterioration in the burden of unemployment carried except that it was

small, the largest deterioration being of the Prairie region with 3 per cent. In fact what seems to have happened is that the 8 per cent improvement by the Atlantic region was at the expense of the Prairies (3%), British Columbia (2%), Quebec (2%) and Ontario (1%). In short, except for the Atlantic region, there was hardly any change in the structure and burden of unemployment in 1970.

Looking at the percentage change from 1966 to 1970 (see Table II-7) it will be seen that the Atlantic region had the least change (19%), Canada registered 64 per cent, Quebec (68%), British Columbia (69%) and Ontario with 72 per cent, while the Prairies indicate the largest change of all (110 %).

TABLE II-7

1966-70 CANADA AND REGIONAL PERCENTAGE CHANGE IN UNEMPLOYMENT RATES

	1966	1970	CHANGE	CHANGE % OF 1966
Canada	3.6	5.9	2.3	64 %
Atlantic	6.4	7.6	1.2	19 %
Quebec	4.7	7.9	3.2	68 %
Ontario	2.5	4.3	1.8	72 %
Prairie	2.1	4.4	2.3	110 %
B. C.	4.5	7.6	3.1	69 %

The data in Table II-7 seems to indicate that the 1966-70 percentage changes are much higher than the 1961-66 percentage changes given in Table II-5 above. This would indicate that unemployment is more sensitive to a recovery than to a recession in the economy. However, this erroneous conclusion can be avoided if it is realized that the 1961-66 change is based on the high rates of 1961, while the 1966-70 change is based on

the low rates obtaining in 1966.

A summary of this analysis giving the regional distribution of the unemployment burden is given in Table II-8.

TABLE II-8

1961-70 REGIONAL PERCENTAGE DISTRIBUTION OF UNEMPLOYMENT

REGION	MEAN	1961	1966	1970
	%	%	%	%
Atlantic	29	29	32	24
Quebec	24	23	23	25
Ontario	13	14	12	13
Prairie	13	12	11	14
B. C.	21	22	22	24
	100 %	100 %	100 %	100 %

From the data in Table II-8, it can be observed that the period 1961 to 1970, while constituting an unemployment cycle, left the structure and the burden of regional unemployment largely unchanged. In fact the only change seems to have been a slight reduction in the burden of unemployment carried by the Atlantic region from 32 per cent in 1966 to 24 per cent in 1970. However despite this apparent improvement, the Atlantic region and Quebec carry half the burden of unemployment in Canada. Besides, we are here dealing with aggregate data and as Brewis has pointed out,

> Such figures, it will be realized, mask differences in the unemployment rates which exist within the provincial boundaries and the averaging of unemployment rates for the Atlantic provinces together conceals the fact that unemployment in Newfoundland frequently exceeds 18 per cent of the labour force. This 18 per cent it should be emphasized, constitutes not just a seasonal peak, but an annual average. Inspite of improvements, Newfoundland remains a depressed area.[19]

Regression Analysis

Having established the fact that there is a set pattern in the structure and distribution of unemployment in Canada, at least for the period under study, the next objective of this study is to utilise this information for estimating the rates of unemployment which any particular region will experience given a certain change in the level of national rates of unemployment. For this, a simple regression analysis utilising seasonally adjusted quarterly data for the period 1961 to 1970 was used. The procedure involved using each region's unemployment rates as the dependent variable (y) while the national rate was the independent variable (x). The regression equation was of the form $y = a + bx$. The results of this analysis are given below in Table II-9. S is the standard error of estimate.

TABLE II-9

REGIONAL REGRESSION EQUATIONS

REGION	R^2	REGRESSION EQUATION	s
Atlantic	0.84	$y = 1.699 + 1.299x$	0.13
Quebec	0.96	$y = 0.656 + 1.207x$	0.05
Ontario	0.97	$y = -0.447 + 0.807x$	0.03
Prairies	0.93	$y = -0.683 + 0.787x$	0.05
B. C.	0.94	$y = -0.297 + 1.242x$	0.07

From these regional equations regression lines were developed by substituting x for a reasonable range of national rates of unemployment from 3.5 per cent going up by 0.5 per cent until 7.0 per cent rate was reached. The basic idea behind this step was to find out by how much each region's rate of unemployment would change if the national rate changed by 0.5, 1.0, 1.5, 2.0,...3.5 per cent. The regression lines are given in Figure II-2 while the rates of change are given in Table II-10.

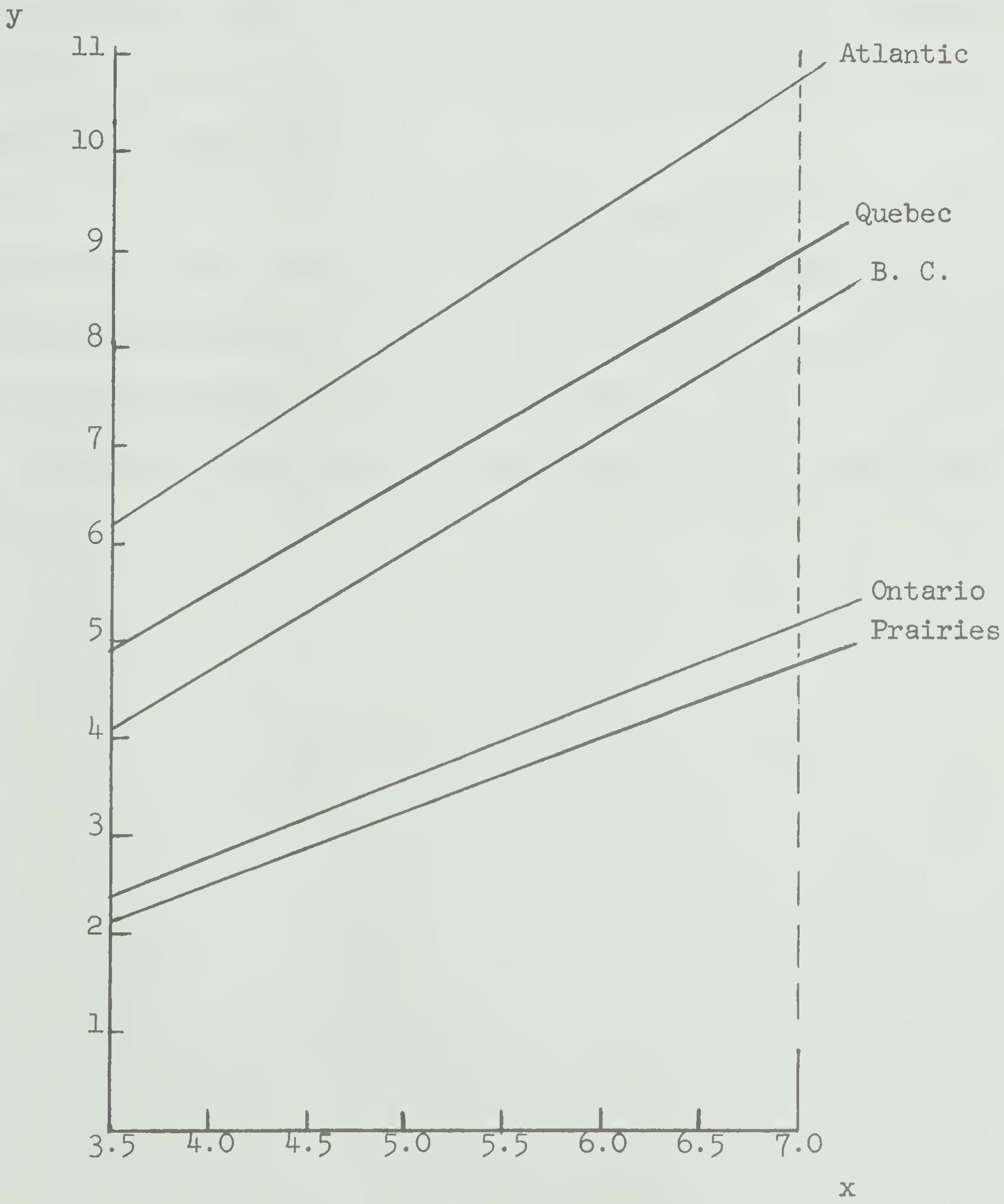
TABLE II-10

ESTIMATED CHANGE IN REGIONAL RATES FROM REGRESSION

REGION	x = 3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
Atlantic	6.2	6.9	7.5	8.1	8.8	9.5	10.1	10.8
Quebec	4.9	5.5	6.1	6.7	7.3	7.9	8.5	9.1
Ontario	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2
Prairies	2.1	2.5	2.9	3.3	3.6	4.0	4.4	4.8
B. C.	4.1	4.7	5.3	5.9	6.5	7.2	7.8	8.4

Looking at Table II-10 it will be seen that if the national rate of unemployment changes by 0.5 per cent, the Atlantic region will change by 0.7 per cent. Thus for every 1 per cent change in national rate, the Atlantic region will change by 1.4 per cent. In a similar manner when the national rate changes by 0.5 per cent, Quebec will change by 0.6 per cent i.e., for every 1 per cent change in the national rate Quebec will change by 1.2 per cent. Because both the Atlantic region and Quebec rate of change is greater than any change in the national rate, it follows that their rates of unemployment will always lie above the national rate. For Ontario on the other hand a change of 0.5 per cent in the national rate will mean a change of 0.4 per cent, thus for every 1 per cent change in the national rate Ontario will change by 0.8 per cent. When the national rate changes by 0.5 per cent, the Prairie region will change by 0.4 per cent exactly like Ontario except that the "a" value in the regression equation for the Prairies is a little lower than that for Ontario. Because of this Ontario always starts at a higher level than the Prairie region so that even if their rate of change is the same the actual rates are different. Since both Ontario and the Prairies rate of change is lower than the change in the national rates of unemployment, they both lie below the

FIGURE II-2
REGIONAL REGRESSION LINES



national rate irrespective of the national level of unemployment. British Columbia on the other hand will change by 0.6 per cent if the national rate changes by 0.5 per cent. In other words the rate of change of British Columbia is exactly the same as that for Quebec except again that Quebec starts at a much higher level than British Columbia (see Figure II-2). It is interesting to note that in the case of the Prairie region and Ontario the R^2 value for Ontario (.97) is not any higher than that for the Prairies (.93). In a similar manner for British Columbia and Quebec the value of R^2 is not much higher for Quebec (.96) than for British Columbia (.94)__see Table II-9.

In all, it can be said that each region has its own rate of change for any given change in the national rate, and that where any two regions have the same rate of change their actual rates will differ because of the difference in the constant term "a" in the regression equation. Otherwise for the sake of estimation the above equations are very useful.

CHAPTER III

THE INCIDENCE OF UNEMPLOYMENT AMONG MALE AGE LABOUR FORCE GROUPS

In the previous chapter it was concluded that despite the regional differences in the rate of response to economic conditions governing employment, the structure and incidence of unemployment remained basically the same throughout the 1960's. From the regression analysis it was observed that as the national rate of unemployment changes, each regional unemployment rate will change at a different rate from any other region. Where any two regions change at the same rate, as in the case of Quebec and British Columbia, it was found that their initial positons were different and therefore, the percentage unemployed also differed. In this chapter the study will take a look at the incidence of unemployment among the male age labour force groups.

There are a number of important reasons why the sex and age distribution of the labour force are important in a study of unemployment. First, the age structure of a population determines the size of the labour force of that country. Secondly, the age and sex composition of the labour force are understood to have a lot of influence on the participation rates of that labour force. This has been indicated in Walter's study quoted in the first chapter of this study. And lastly Ostry has pointed out that,

> age and sex are major correlates of both the rate and ...the duration of unemployment....the rates for males over the years have been a good deal higher than for females,...this relationship between the unemployment

rates of the two sexes is a long-standing one in Canada...[20]

Because of the need to keep the study short and concise, the male, female and marital status of both sexes will be located in separate chapters. This chapter will deal with the male sector of the labour force.

Incidence of Unemployment Among Men

The incidence of unemployment among men will be discussed on the basis of men as a group__all men, then men 14-19 years, 20-24, 25-34, 35-44 and 45 years and over. The unemployment rates for all these groups are given in Appendix B_1 to B_5. In Table III-1 quarterly unemployment rates are given for all men as a labour force group.

TABLE III-1

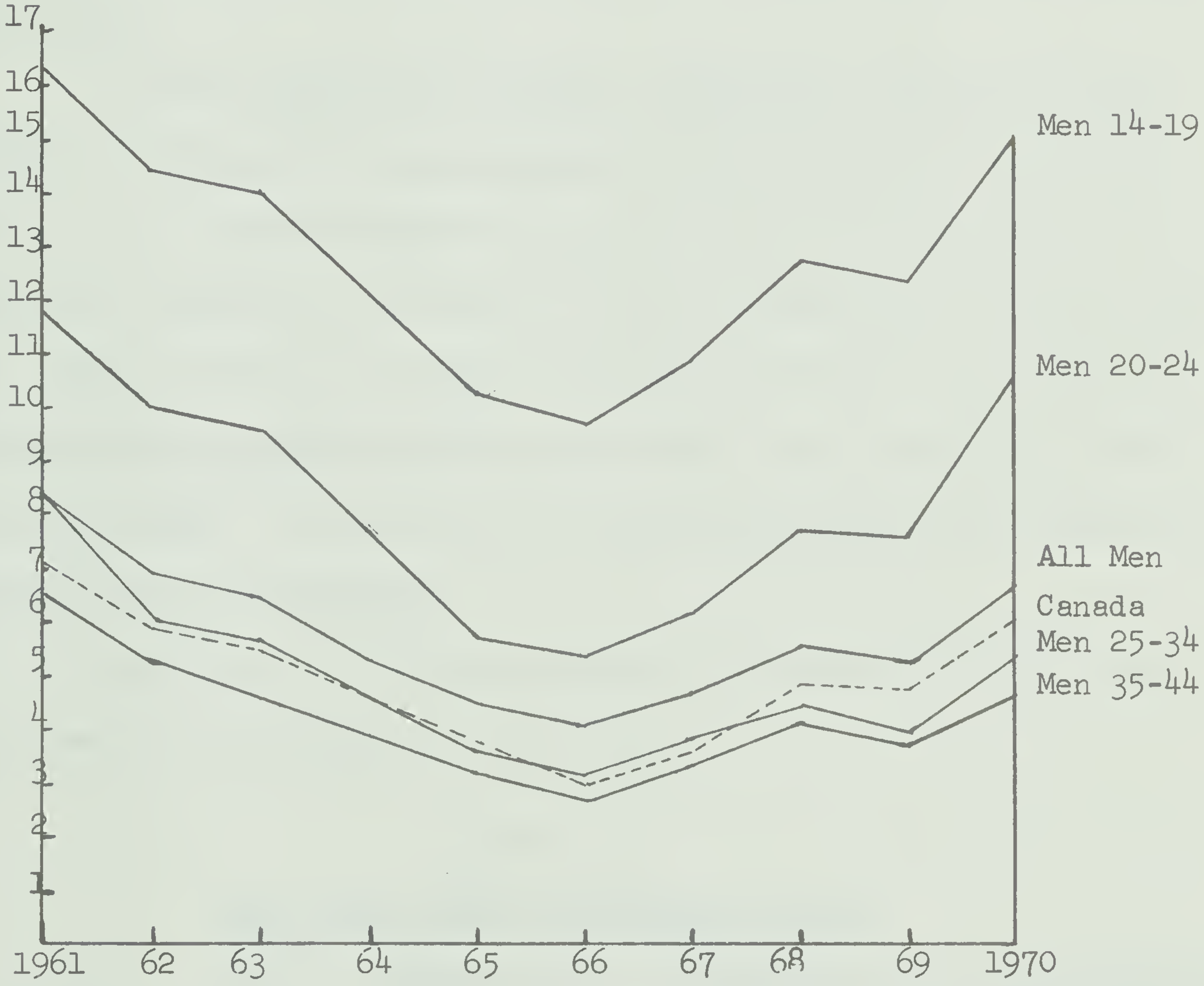
MEN: QUARTERLY UNEMPLOYMENT RATES 1961-70

Year	I	II	III	IV	ANNUAL
1961	8.8	8.9	8.2	7.3	8.4
1962	7.1	6.7	6.8	6.9	6.9
1963	6.7	6.5	6.1	6.0	6.4
1964	5.6	5.4	5.1	5.1	5.3
1965	4.6	4.6	4.2	3.9	4.4
1966	4.0	3.9	4.2	4.0	4.0
1967	4.3	4.6	4.6	5.2	4.6
1968	5.3	5.6	5.6	5.5	5.5
1969	4.8	5.4	5.4	5.5	5.2
1970	5.5	6.8	7.5	7.1	6.6

Source: Labour Force Statistics, Seasonally Adjusted. DBS.

The annual data for all male age groups and Canada are plotted and presented in Figure III-1, in which it can be seen that the highest rate of unemployment is among the 14-19 years, followed by 20-24 age group and all men as a group. These three labour force groups have experienced a higher rate of unemployment well above the national average throughout this period from 1961 to 1970. The age group 25-34 approximates the national

FIGURE III-1
UNEMPLOYMENT RATES FOR MEN 1961-70



average for most of the time except in 1961, and 1968-1970. This and the male 45 and over are the only age groups which fluctuate above and below the national average. The male group 35-44 years has the lowest rate of unemployment and for the whole period 1961 to 1970 it has been below the national average rate of unemployment. It is quite surprising that the 25-34 and the 45 year and over age groups have unemployemtn rates which are pretty close and not far off from the national average. More on this phenonenon will be discussed below under the regression analysis.

To gain insight into the male unemployment situation during the 1961 to 1970 period, the procedure established in the last chapter will be used. First the 1961-70 mean rates for all groups will be discussed with reference to all men as a labour force group, then the years 1961, 1966 and 1970 will be taken and analysed in terms of distribution and level of unemployment in each male labour force age group already established above. In each case the age group variation from the national rate will be highlighted.

Starting with the mean rates for the period 1961-70, the age group mean rates are given in Table III-2.

TABLE III-2

MEN 1961-70 MEAN UNEMPLOYMENT RATES

GROUP	MEAN RATE	DIFFERENCE FROM CANADA (5.0)	DIFFERENCE AS % OF CANADA (5.0)	% DISTRIBUTION OF UNEMPLOYMENT
All Men	5.7	0.7	14 %	-
Men 14-19	12.8	7.8	156 %	36 %
Men 20-24	8.2	3.2	64 %	24 %
Men 25-34	4.8	-0.2	- 4 %	14 %
Men 35-44	4.2	-0.8	- 16 %	12 %
Men 45 & Over	4.8	-0.2	- 4 %	14 %
				100 %

Looking at the data in Table III-2 it will be seen that while all men as a group had a mean rate of 5.7 per cent for the period 1961-70, the 14-19 age group recorded the highest mean rate of 12.8 per cent followed by men 20-24 years with 8.2 per cent. These three labour force groups were above the national mean rate of 5.0 per cent. Below the national mean rate were the men 25-34 and men 45 years and over both with 4.8 per cent each. The lowest mean rate was among men 35-44 years who recorded 4.2 per cent.

If the group mean unemployment rates are compared with the national mean rate of unemployment the data in Table III-2 reveals the fact that the 14-19 age group difference from the national rate was 11.1 times as high as the difference for all men as a group from the national mean rate. Thus, while all men as a group had 0.7 per cent above the national mean rate, the 14-19 age group was 7.8% above the national mean rate. In other words, the 14-19 age group recorded about 2.6 times as much as the national mean unemployment rate, or in terms of the difference as a percentage of the national mean, the 14-19 age group had 156 per cent compared to all men with 14 per cent. The 20-24 age group on the other hand had a 3.2 per cent above the national mean rate, thus this group had a mean rate which was approximately 4.5 times above the national mean rate as the mean rate for all men as a group. In terms of percentage difference the 20-24 age group scored 64 per cent compared to the 14-19 age group with 156 per cent and all men as a group with 14 per cent. For the three male age groups with mean unemployment rates below the national mean rate it is surprising to note from Table III-2 that none of these groups was more than one per cent below the national rate. The highest difference below the national mean is that for the 35-44 age group with 0.8 per cent or in terms of percentage difference it was 16 per cent be-

low the national mean rate.

In terms of the percentage distribution of unemployment Table III-2 shows that 60 per cent of the unemployed were in the 14-19, and 20-24 age groups, the former had 36 per cent while the latter had 24 per cent. The Table also reveals that the 25-34 and the 45 and over age groups put together carried 28 per cent of the unemployed, but this is still lower than the 14-19 age group burden of 36 per cent. In other words, the 14-19 age group had the same amount of unemployment burden as the 20-24 and the 35-44 age groups put together. From this a conclusion can be made that the incidence of unemployment taking the 1961-70 mean rates was concentrated in the male members of the labour force aged between 14 and 24 years old. As discussed above, this section of the labour force carried 60 per cent of the unemployed. The lowest burden of unemployment (12 per cent) was among the 35-44 age group meaning that for every person unemployed in this group, five people were unemployed in the 14 to 24 years of age. To put it in terms of age groups for every person unemployed in the 35-44 age group, two were unemployed in the 20-24 age group while three were unemployed in the 14-19 age group. With this general pattern in mind the years 1961, 1966 and 1970 will be taken to find out if there was any important departure from the above pattern.

The year 1961 as pointed out in Chapter I had the highest rates of unemployment for the period 1961 to 1970. The male group unemployment rates, their differences from the national rate and the percentage distribution of unemployment are all given in Table III-3.

TABLE III-3

MEN 1961 GROUP UNEMPLOYMENT RATES AND DISTRIBUTION

GROUP	RATE	DIFFERENCE FROM CANADA (7.1)	DIFFERENCE AS % OF CANADA (7.1)	% DISTRIBUTION OF UNEMPLOYMENT
All Men	8.4	1.3	18 %	-
Men 14-19	16.4	9.3	131 %	33 %
Men 20-24	11.8	4.7	66 %	24 %
Men 25-34	8.1	1.0	14 %	16 %
Men 35-44	6.5	- 0.6	9 %	13 %
Men 45 & over	7.1	0.0	0	14 %
				100 %

From Table III-3 it can be observed that the 14-19 age group had the highest rate of unemployment of 16.4 per cent. When compared to all men as a group, the 14-19 years of age had a rate twice as much while their difference from the national rate of 7.1 per cent was this time seven times that of all men. The 20-24 age group had the second highest rate of 11.8 per cent which in terms of the difference from the national rate was about three times the difference between the rate for all men and the national rate. The 25-34 age group rate was above the national rate by one per cent while the 45 years and over recorded the same rate of 7.1 per cent as the national rate of unemployment. It was only the 35-44 age group whose rate fell below the national rate, but even then by only 0.6 per cent. Looking at the percentage differences from the national rate it can be seen that all men as a group was 18 per cent worse off compared to 14 per cent for the mean rates 1961-70. The 14-19 age group had 131 per cent in 1961 as compared to 156 per cent for the mean rates 1961-70. However this apparent improvement should not blind us to the fact that the general level of unemployment rates was much higher in 1961 compared to the mean rates 1961-70.

The burden of unemployment in 1961 was again concentrated in the 14 to 24 year age members of the labour force who in that year accounted for 57 per cent of the unemployed. As Table III-3 reveals the 14-19 age group had 33 per cent of the unemployed compared to 36 per cent for the mean rates 1961-70. The 20-24 age group maintained the same position of 24 per cent in 1961 as that observed for the mean rates 1961-70. Similarly the 45 years and over maintain their 14 per cent load of unemployment. What happened in 1961 was that of the three per cent improvement made by the 14-19 age group, two per cent of it was loaded on the 25-34 age group and the remaining one per cent on the 35-44 age group. In short, apart from this three per cent redistribution of the burden of unemployment, there was no change from the pattern observed in the 1961-70 mean rates of unemployment. This observation is very surprising especially when the general level of unemployment rates were much higher in 1961 than the mean rates for 1961-70. The next step is to analyse the data for 1966 when the level of unemployment was lowest and find out if the above pattern still holds true.

The data for 1966 group rates of unemployment, their differences from the national rate and the distribution of unemployment are given in Table III-4. As it can be seen from Table III-4, all men as a group recorded 4.0 per cent, just less than half of their rate of 8.4 per cent in 1961. Although the 14-19 age group had 9.7 per cent compared to 16.4 per cent in 1961, this was still more than twice the rate for all men, and actually approximately four times the rate for men 35-44 which at 2.7 per cent was the lowest among male labour force groups. The 20-24 age group with 5.3 per cent was almost twice the 35-44 age group rate of 2.7 per cent. For once the age group 45 years and over had its rate

above the national level though by only 0.1 per cent. Both the 25-34 and the 35-44 age groups had rates below the national rate, But, again as in 1961 and the mean rates of 1961-70 none was more than one per cent below the national rate.

TABLE III-4

MEN 1966 GROUP UNEMPLOYMENT RATES AND DISTRIBUTION

GROUP	RATE	DIFFERENCE FROM CANADA (3.6)	DIFFERENCE AS % OF CANADA (3.6)	% DISTRIBUTION OF UNEMPLOYMENT
All Men	4.0	0.4	11 %	-
Men 14-19	9.7	6.1	169 %	39 %
Men 20-24	5.3	1.7	47 %	22 %
Men 25-34	3.1	- 0.5	- 14 %	13 %
Men 35-44	2.7	- 0.9	- 25 %	11 %
Men 45 & Over	3.7	0.1	- 3 %	15 %
				100 %

The data in Table III-4 gives an indication that whereas the level of unemployment was very low in 1966, there seems to be wider differences between the group rates and the national rate of unemployment. All men as a group moved closer to the national rate by recording a difference of 11 per cent of the national rate in 1966 compared to 18 per cent in 1961 and 14 per cent for the mean rates 1961-70. The 14-19 age group on the other hand shows a higher percentage difference even when the actual differences in rates are lower in 1966 than in 1961 and for the mean rates 1961-70. The other groups exhibit the same tendency but this is due to the lower base in 1966 (3.6) compared to the higher one in 1961 (7.1) and to the mean rates 1961-70 (5.0). For this reason the percentage differences should be interpreted with care, especially

when comparing two different years.

Looking at the distribution of unemployment, the data in Table III-4 shows that the 14 to 24 years of age carried 61 per cent of the unemployed in 1966. This compares with 60 per cent for the mean rates 1961-70 and only four per cent more than in 1961 when this section of the labour force carried 57 per cent of the unemployed. The 14-19 age group carried 39 per cent of the unemployed in 1966 compared to 33 per cent in 1961 and 36 per cent for the mean rates 1961-70. In other words, at a time when the unemployment picture looked at its best, the 14-19 years old had the greatest unemployment burden. The 20-24 age group improved itself by two per cent from 24 per cent in 1961 to 22 per cent in 1966. Among the groups which improved over the 1961 situation were the 25-34 age group from 16 per cent in 1961 to 13 per cent in 1966 an improvement of three per cent, men 35-44 improved by two per cent from 13 per cent in 1961 to 11 per cent in 1966. Men 45 years and over on the other hand increased the burden by one per cent. The picture which emerges from the 1966 data is that changes in the structure of unemployment were very small. The fact still remains that the 14 to 24 years of age carried 60 per cent of the burden of unemployment. The remaining age groups simply switched by one to three per cent thereby leaving the over structure of unemployment pretty much the same in 1966 as it was in 1961 and for the mean rates 1961-70.

One possible explanation for this minimal change in the structure of unemployment from 1961 to 1966 is indicated in the data given in Table III-5 which is the change in the national and male groups rate of unemployment from 1961 to 1970.

TABLE III-5

MEN 1961-1966 CHANGE IN UNEMPLOYMENT RATES

CANADA AND MALE GROUPS	1961 RATE	1966 RATE	1961-1966 CHANGE	CHANGE AS % OF 1961
Canada	7.1	3.6	3.5	49 %
All Men	8.4	4.0	4.4	52 %
Men 14-19	16.4	9.7	6.7	41 %
Men 20-24	11.8	5.3	6.5	55 %
Men 25-34	8.1	3.1	5.0	62 %
Men 35-44	6.5	2.7	3.8	59 %
Men 45 & Over	7.1	3.7	3.4	48 %

From the data in Table III-5 it can be observed that while the 14-19 age group had the highest rates of unemployment, the group had also the lowest percentage change of 41 per cent from 1961 to 1966. For the group 20-24 years of age although the change was larger (55) than the 14-19 age group, it was lower than that for men 25-34 at 62 per cent and men 35-44 with 59 per cent. This in short means that those 14 to 24 years of age managed to keep their burden of unemployment almost intact while the remaining groups had marginal shifts of one to three per cent in their respective loads of unemployment.

Finally the year 1970 which had the second highest rates of unemployment after 1961 is examined to see if the above pattern continued through the 1960's. The data for 1970 is given in Table III-6 and as it will be seen the 14-19 age group had the highest rate of unemployment of 15.0 per cent, followed by the 20-24 age group with 10.5 per cent, while the lowest rates were recorded among the 35-44 years of age with 4.6 per cent. And for once two groups with rates below the national rate were able to record a difference of at least one per cent below the national rate.

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TABLE III-6

MEN 1970 GROUP UNEMPLOYMENT RATES AND DISTRIBUTION

GROUP	RATE	DIFFERENCE FROM CANADA (5.9)	DIFFERENCE AS % OF CANADA (5.9)	% DISTRIBUTION OF UNEMPLOYMENT
All Men	6.6	0.7	12 %	-
Men 14-19	15.0	9.1	154 %	37 %
Men 20-24	10.5	4.6	78 %	26 %
Men 25-34	5.3	- 0.6	- 10 %	13 %
Men 35-44	4.6	- 1.3	- 22 %	12 %
Men 45 & Over	4.9	- 1.0	- 17 %	12 %
				100 %

Looking at the group rate differences from the national rate, it will be seen that the 14-19 year group had 13 times as much as all men 1970 compared to 11.1 times for the mean rates 1961-70, 15 times in 1966 and 7 times in 1961. Apart from this 14-19 age group and the 20-24 group the other groups showed absolute differences from the national rate of between 0.6 and 1.3 per cent, or in terms of percentage of the national rate the absolute range was from 10 to 22 per cent. The distribution of unemployment given in Table III-6 still points to the already observed fact that those 14 to 24 years of age carried 63 per cent of the unemployed in 1970 compared to 61 per cent in 1966, 57 per cent in 1961 and 60 per cent for the mean rates 1961-70. In short these two groups carried almost the same burden of unemployment throughout the 1960's despite the varied changes in the rates of unemployment during this period. Looking at the remaining three labour groups in Table III-6 it will be noted that the distribution of unemployment was divided almost evenly, 13 per cent for the 25-34 group, 12 per cent each for men 35-44 and 45 years and over. So the burden of unemployment in 1970 coincided pretty well with that in

1966 and 1961. A summary of the distribution of unemployment in 1961, 1966, 1970 and the mean distribution for 1961-70 is given Table III-7.

TABLE III-7

MEN DISTRIBUTION OF UNEMPLOYMENT IN SELECTED YEARS

GROUP	1961	1966	1970	1961-70
	%	%	%	%
Men 14-19	33	39	37	36
Men 20-24	24	22	26	24
Men 25-34	16	13	13	14
Men 35-44	13	11	12	12
Men 45 & Over	14	15	12	14
	100	100	100	100

The data in Table III-7 comfirms the fact that there was no significant change in the structure and pattern of unemployment during the 1960's. This conclusion is similar to that made in the last chapter concerning the structure and pattern of regional unemployment in the 1960's. The 14-19 age group had the highest incidence of unemployment followed by the 20-24 age group. In 1970 as in the other years examined for every one person unemployed in the 35-44 age group five were unemployed in the 14 to 24 years of age. Normally the distribution being two in the 20-24 age group and three in the 14-19 age group.

The Regression Analysis

In the previous chapter a correlation and regression analysis was made with the aim of estimating by how much the regional unemployment rates would change given a change in the national rate of unemployment. In this chapter the same analysis will be made purposely to estimate by how much the male group rates of unemployment would change if there is a change

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[illegible]

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in the national rate of unemployment. The data used in this analysis is the quarterly unemployment rates for the years 1961 - 1969 inclusive, and is already given in Appendix B_1 to B_5. The correlation and regression equations are given in Table III-8.

TABLE III-8

MEN GROUP CORRELATION & REGRESSION EQUATIONS

MALE GROUP	R^2	REGRESSION EQUATION	s
All Men	0.99681	$y = 0.514 + 1.23 x$	0.02
Men 14-19	0.97169	$y = 2.778 + 1.99 x$	0.08
Men 20-24	0.98383	$y = -1.605 + 1.938 x$	0.06
Men 14-24	0.97886	$y = 0.157 + 1.98 x$	0.04
Men 25-44	0.98971	$y = 1.577 + 1.22 x$	0.03
Men 25 & Over	0.98909	$y = -0.95 + 1.125 x$	0.03
Men 45 & Over	0.97331	$y = -0.236 + 1.023 x$	0.04

In Table III-8 as in the previous chapters, the male group rates of unemployment were treated as the dependent variables (y) while the national rate was the independent variable (x), s is the standard error of estimate. In this table two additional groups have been formed by combining two adjacent groups like 14-19 and 20-24 into 14-24, and 25-34 and 35-44 now form a single group 25-44. The group 25 and over therefore combines the 25-44 and the 45 and over. This was done because data was available on this basis and also to highlight the 14 to 24 years of age with an average of 60 per cent burden of unemployment. Looking at R^2 in Table III-8 a firm conclusion can be made that there is a very high correlation between the national rate of unemployment and the male group rates. With this in mind the group regression equations were used to estimate group rates given the national rate of unemployment. The results of this analy-

sis are reported in Table III-9, while the regression lines are given in Figure III-2.

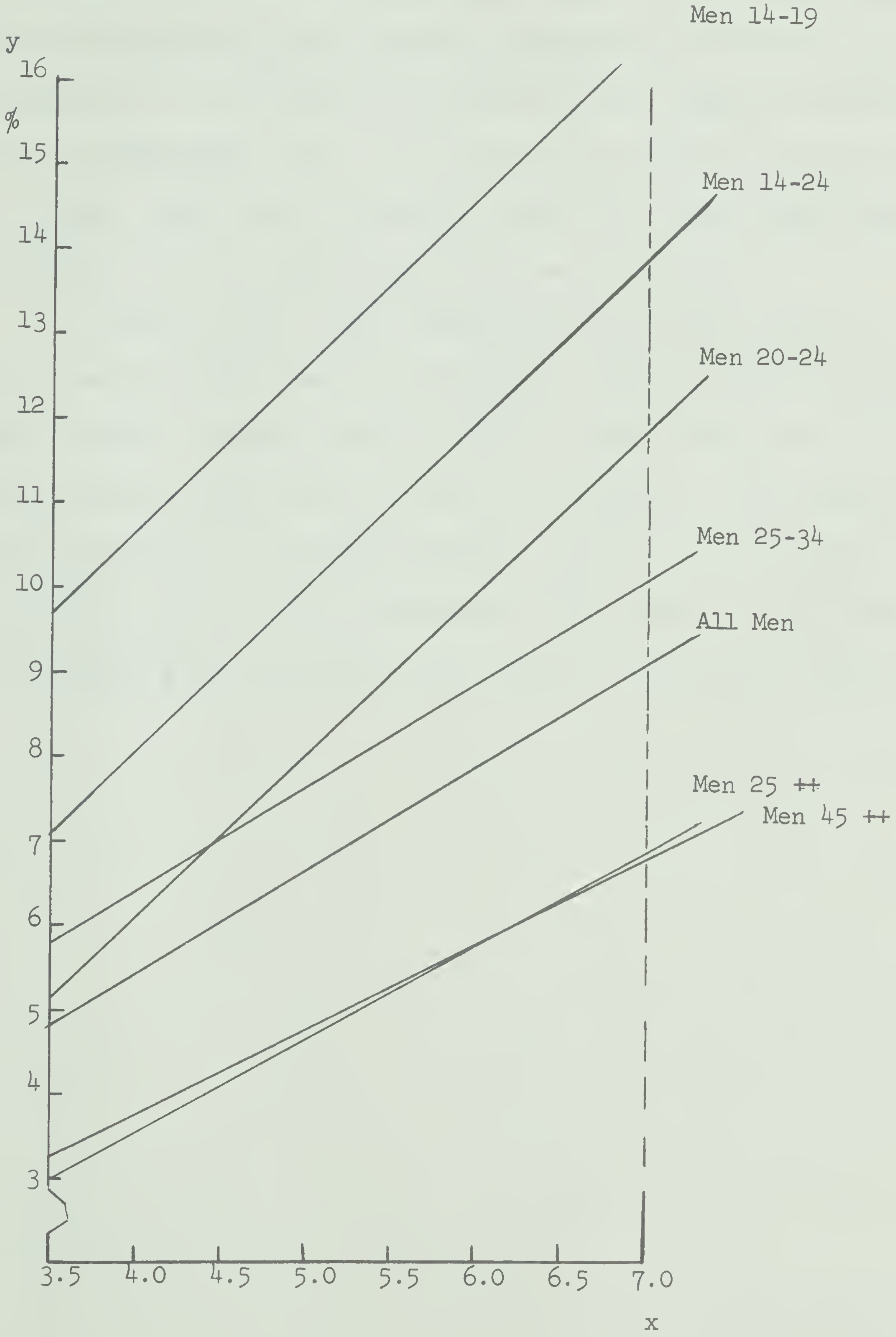
TABLE III-9

MALE ESTIMATED RATES OF UNEMPLOYMENT FROM THE REGRESSION EQUATIONS

		x =							
GROUP	REGRESSION EQUATION	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
All Men	$y = 0.514 + 1.28\,x$	4.8	5.4	6.0	6.7	7.3	7.9	8.5	9.1
Men 14-19	$y = 2.778 + 1.99\,x$	9.7	10.7	11.7	12.7	13.7	14.7	15.7	16.7
Men 20-24	$y = -1.605 + 1.938\,x$	5.2	6.1	7.1	8.1	9.1	10.0	11.0	12.0
Men 14-24	$y = 0.157 + 1.98\,x$	7.1	8.1	9.1	10.1	11.0	12.0	13.0	14.0
Men 25-44	$y = 1.577 + 1.22\,x$	5.8	6.5	7.1	7.7	8.3	8.9	9.5	10.1
Men 25 & over	$y = -0.95 + 1.125\,x$	3.0	3.6	4.1	4.7	5.2	5.8	6.4	6.9
Men 45 & over	$y = -0.236 + 1.023\,x$	3.3	3.9	4.4	4.9	5.4	5.9	6.4	6.9

What the results in Table III-9 show is that for all men as a group the rate of unemployment will change by 0.6 per cent for every 0.5 change in the national rate. Thus for every one per cent change in the national unemployment rate, all men as a group will change by 1.2 per cent. For the age group 14-19 years old, the rate of change is much higher. For every one per cent change in the national rate of unemployment the 14-19 age group will change by two per cent. The 20-24 group on the other hand will change almost by the same rate as the 14-19 group except that the constant term "a" in the equation is negative thus making the actual rates of unemployment of these two groups different. This comes out more clearly when we combine both groups into a 14-24 group with the results that the rate of change remains the same at two per cent for every one per cent change in the national rate of unemployment. Looking at Figure III-2 it can be seen that for these three groups (14-19, 20-24 and 14-24) their regression lines are parallel to each other. The groups 25 years and over

FIGURE III-2
MALE REGRESSION LINES



and 45 years and over also have the same rate of change of 1.1 per cent for every one per cent change in the national rate of unemployment. In fact when the national rate of unemployment reaches 6.5 per cent these two groups would record similar rates of unemployment. The 25-44 age group changes by 1.2 per cent for every one per cent change in the national rate of unemployment, this is the same rate of change as that for all men as a group. Again here the constant term "a" is almost three times higher for the 25-44 age group than for all men as a group.

In summary there is more commonality in the group rates of change for men than there was for the regions. However, when everything is considered the commonality does not lead to equal rates because of the constant term which might differ in size or in direction. The regression equations are useful in estimating changes in group rates as a result of change in the national rate of unemployment. When applied to historical data these equations give estimates very close to actual rates experienced.

CHAPTER IV

THE INCIDENCE OF UNEMPLOYMENT AMONG WOMEN

In Chapter III it was noted that sex and age are important factors in determining the size and participation rate of the labour force. It was further shown that for men the age distribution has been important in determining the incidence of unemployment since for every person unemployed in the 35-44 age group at least five were unemployed in the 14 to 24 years of age. In Canada the position of women in the labour force is particularly important. In a study (already referred to in Chapter I) by Walters it was shown that the female participation rate has increased by 11 per cent from 1950 to 1967 and that this increase was an important factor in the changes that have occurred in the Canadian labour force. Another study by Ostry cited in Chapter III indicates that the female rates of unemployment have always been lower than the male rates and that this relationship is a long standing one in Canada. For these and other reasons it is important that a closer look at the female labour force be made to gain some understanding of the similarities and differences if any from the male labour force. In this chapter therefore women will be divided into labour force age groups so that a similar analysis as the one carried out in the last chapter can be applied. Because of the way data is reported, the female labour force can only be divided into 14-19, 20-24 and 25 and over age groups.

The data for all women as a group are given in Table IV-1 while in Figure I -1 the female group rates are plotted together with the na-

tional rate. See also Appendix C_1 and C_2.

TABLE IV-1

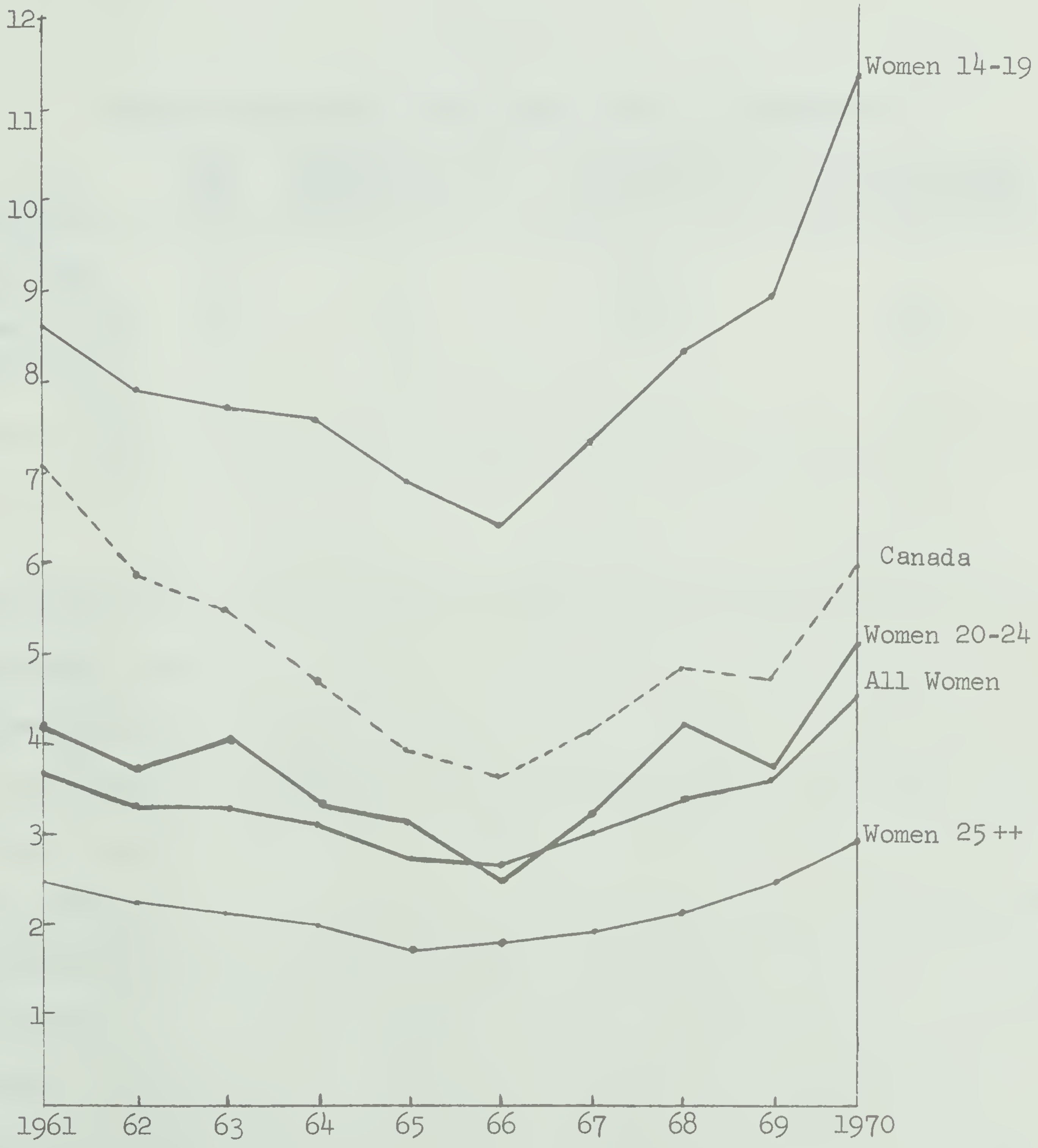
WOMEN QUARTERLY UNEMPLOYMENT RATES 1961-70

YEAR	I	II	III	IV	ANNUAL
1961	3.9	3.8	3.6	3.4	3.7
1962	3.3	3.2	3.2	3.5	3.3
1963	3.5	3.3	3.3	3.2	3.5
1964	3.1	3.2	3.1	3.0	3.1
1965	3.0	2.8	2.5	2.5	2.7
1966	2.5	2.5	2.8	2.7	2.6
1967	2.9	3.0	2.9	3.0	3.0
1968	3.1	3.5	3.6	3.5	3.4
1969	3.4	3.6	3.5	3.9	3.6
1970	3.9	4.2	4.8	5.1	4.5

Source: Labour Force Statistics, Seasonally Adjusted. D.B.S.

Looking at Figure IV-1 it will be observed that the female 14-19 age group has the highest rate of unemployment, and is the only age group whose rates lie above the national rates for the period 1961 to 1970. The female group 20-24 years old has the next highest rate of unemployment after the 14-19 age group. However, the 20-24 age group is way below the 14-19 age group as the national rate. All women as a group follow the 20-24 age group and is very close to it most of the time. The lowest rate of unemployment is among women 25 years and over, and for the whole period 1961 to 1970 their rate of unemployment exceeded 2.5 per cent only once in 1970. Similarly the rate for all women as a group exceeded 4 per cent only once in 1970. The age group 20-24 years old had its rate above 4.5 per cent only once in 1970, while the 14-19 age group never went below 6.5 per cent except only once in 1966 when it was 6.4 per cent. In order to dis-

FIGURE IV-1
WOMEN UNEMPLOYMENT RATES 1961-70



cover what lies behind these rates a detailed analysis of the mean rates 1961-70, the years 1961, 1966 and 1970 will be made.

The data for the mean rates 1961-70 is given in Table IV-2 in which the percentage distribution of unemployment among the age groups is also given.

TABLE IV-2

WOMEN 1961-70 MEAN UNEMPLOYMENT RATES & DISTRIBUTION

GROUP	MEAN RATE	DIFFERENCE FROM CANADA (5.0)	DIFFERENCE AS % CANADA (5.0)	% DISTRIBUTION OF UNEMPLOYMENT
All Women	3.3	- 1.7	- 34 %	-
Women 14-19	8.1	3.1	62 %	58 %
Women 20-24	3.7	- 1.3	- 26 %	26 %
Women 25 & Over	2.2	- 2.8	- 56 %	16 %
				100 %

From Table IV-2 it will be observed that the 14-19 age group rate of unemployment was almost 2 1/2 times the rate for all women and almost four times the rate for women 25 years and over. Compared to the national rate it was 62 per cent worse off while the female group 25 years and over was 56 per cent better off. When it comes to the distribution of the burden of unemployment the 14-19 age group carried 58 per cent of the unemployed, leaving the other two groups to share the remaining 42 per cent. Of course the sharing was not fair the 20-24 age group carried 26 per cent while the females 25 years and over carried only 16 per cent of the unemployed. In short for every unemployed person in the female group 25 years and over at least more than three people were unemployed in the 14-19 age group. The female aged 14 to 24 had 84 per cent of the unemployed meaning that for

every unemployed woman in the 25 years and over age group at least five were unemployed among the 14 to 24 years of age. As far as women are concerned the incidence of unemployment was very acute for those under 25 years, but very light for those 25 years and above. To see whether this pattern of unemployment continued throughout the period the years 1961, 1966 and 1970 will be examined in turn.

For women, 1961 had the second highest unemployment rates while 1970 had the highest rates__this is the exact opposite of what happened to male rates of unemployment where 1961 had the highest rates and 1970 had the second highest rate. The data for female rates in 1961 is given in Table IV-3.

TABLE IV-3

WOMEN 1961 GROUP UNEMPLOYMENT RATES AND DISTRIBUTION

GROUP	MEAN RATE	DIFFERENCE FROM CANADA (7.1)	DIFFERENCE AS % OF CANADA (7.1)	% DISTRIBUTION OF UNEMPLOYMENT
All Women	3.7	- 3.4	- 48 %	-
Women 14-19	8.6	1.5	21 %	56 %
Women 20-24	4.2	- 2.9	- 41 %	28 %
Women 25 & Over	2.5	- 4.6	- 65 %	16 %
				100 %

Looking at the data in Table IV-3, the 14-19 age group had a rate of unemployment more than twice that for all women as a group and more than thrice the rate for women 25 years and over. And while the 14-19 age group improved its performance compared to the national rate from 62 per cent for the mean rates 1961-70 to 21 per cent in 1961, the other groups did much better than this particular group.

When the distribution of unemployment is observed it will be seen that the 14-19 age group carried 56 per cent of the unemployed in 1961 compared to 58 per cent for the mean rates 1961-70. The female aged 25 and over carried the same burden of unemployment in 1961 as it did for the mean rates 1961-70, with 16 per cent of the unemployed. This means that the female aged 14 to 24 years old still carried 84 per cent of the unemployed in 1961 as for the mean rates 1961-70. In short there was no change in the distribution of unemployment in 1961 when compared with the mean rates 1961-70. The next step is to see whether the year 1966 gives the same picture as the one observed above.

The year 1966 had the lowest rates for women as can be seen in Table IV-4 where the female aged 25 and above scored 1.8 per cent while the 14-19 age group had 6.4 per cent thereby rating more than three times the rate for women 25 years and above. The age group 20-24 had a rate of 2.5 per cent just close to the 2.6 per cent for all women.

TABLE IV-4

WOMEN 1966 GROUP UNEMPLOYMENT RATES AND DISTRIBUTION

GROUP	1966 RATE	DIFFERENCE FROM CANADA (3.6)	DIFFERENCE AS % OF CANADA (3.6)	% DISTRIBUTION OF UNEMPLOYMENT
All Women	2.6	- 1.0	- 27 %	-
Women 14-19	6.4	2.8	78 %	60 %
Women 20-24	2.5	- 1.1	- 31 %	23 %
Women 25 & Over	1.8	- 1.8	- 50 %	17 %
				100 %

Looking at the distribution of unemployment it can be seen that the 14-19 age group had 60 per cent of the unemployed in 1966 compared to

56 per cent in 1961. Women aged 25 and over had 17 per cent only one per cent more than the 16 per cent in 1961 and for the mean rates 1961-70. In short the females aged 14 to 25 now carried 83 per cent unemployment in 1966 just one per cent less than the 84 per cent in 1961 and for the mean rates 1961-70. Therefore the incidence of unemployment remained the same in 1966 as it had been in 1961 despite the very low rates of unemployment in 1966. So far the years 1961 and 1966 produced no change in the structure and pattern of unemployment among the female labour force. Now we take a look at 1970, the year with the highest rates of unemployment for women. The data for 1970 is summarized in Table IV-5 where it will be seen that while all women had a rate of 4.5 per cent, the 14-19 age group had a rate of 11.4 per cent thus it was about 2 1/2 times the rate for all women as a group. This is the same situation as was observed for the mean rates 1961-70.

TABLE IV-5

WOMEN 1970 GROUP UNEMPLOYMENT RATES AND DISTRIBUTION

GROUP	1970 RATE	DIFFERENCE FROM CANADA (5.9)	DIFFERENCE AS % OF CANADA (5.9)	% DISTRIBUTION OF UNEMPLOYMENT
All Women	4.5	- 1.4	24 %	-
Women 14-19	11.4	5.5	93 %	59 %
Women 20-24	5.1	- 0.8	14 %	26 %
Women 25 & Over	2.9	- 3.0	51 %	15 %
				100 %

A look at the burden of unemployment in Table IV-5 indicates that the 14-19 age group carried 59 per cent of the burden in 1970 compared to 60 per cent in 1966 and 56 per cent in 1961. The females aged 25 years and

over carried 15 per cent of the burden compared to 17 per cent in 1966 and 1961. So in 1970 the females aged 14 to 24 carried 85 per cent of the unemployment burden compared to 83 per cent in 1966 and 84 per cent in 1961. A firm conclusion can be made that while there were a lot of changes in the group rates of unemployment from 1961 through to 1970, the female structure and pattern of unemployment remained in 1970 basically what it had been in 1961. This situation is summarized in Table IV-6 giving the group distribution of unemployment.

TABLE IV-6

WOMEN 1961 TO 1970 GROUP DISTRIBUTION OF UNEMPLOYMENT

GROUP	1961	1966	1970	1961-70
	%	%	%	%
Women 14-19	56	60	59	58
Women 20-24	28	23	26	26
Women 25 & Over	16	17	15	16
	100 %	100 %	100 %	100 %

The Regression Analysis

Following the procedure established in the earlier chapters, a correlation and regression analysis was made for the female labour force to estimate their rates of change in the national rate of unemployment. The results of this analysis are given in Table IV-7 and are based on quarterly unemployment rates for 1961 through to 1969. For two groups women 14-24 and women 25 years and over the correlation and regression results are based on monthly rates of unemployment from 1961 through to 1970. The raw data used is given in Appendix C_1 and C_2.

TABLE IV-7

WOMEN 1961-70 GROUP CORRELATION AND REGRESSION EQUATIONS

GROUP	R^2	REGRESSION EQUATION	s
All Women	0.74914	$y = 1.354 + 0.392\,x$	0.03
Women 14-19	0.59007	$y = 4.3 + 0.757\,x$	0.37
Women 20-24	0.74769	$y = 1.162 + 0.508\,x$	0.16
Women 14-24	0.73077	$y = 2.35 + 0.668\,x$	0.06
Women 25 & Over	0.71678	$y = 0.853 + 0.26\,x$	0.02

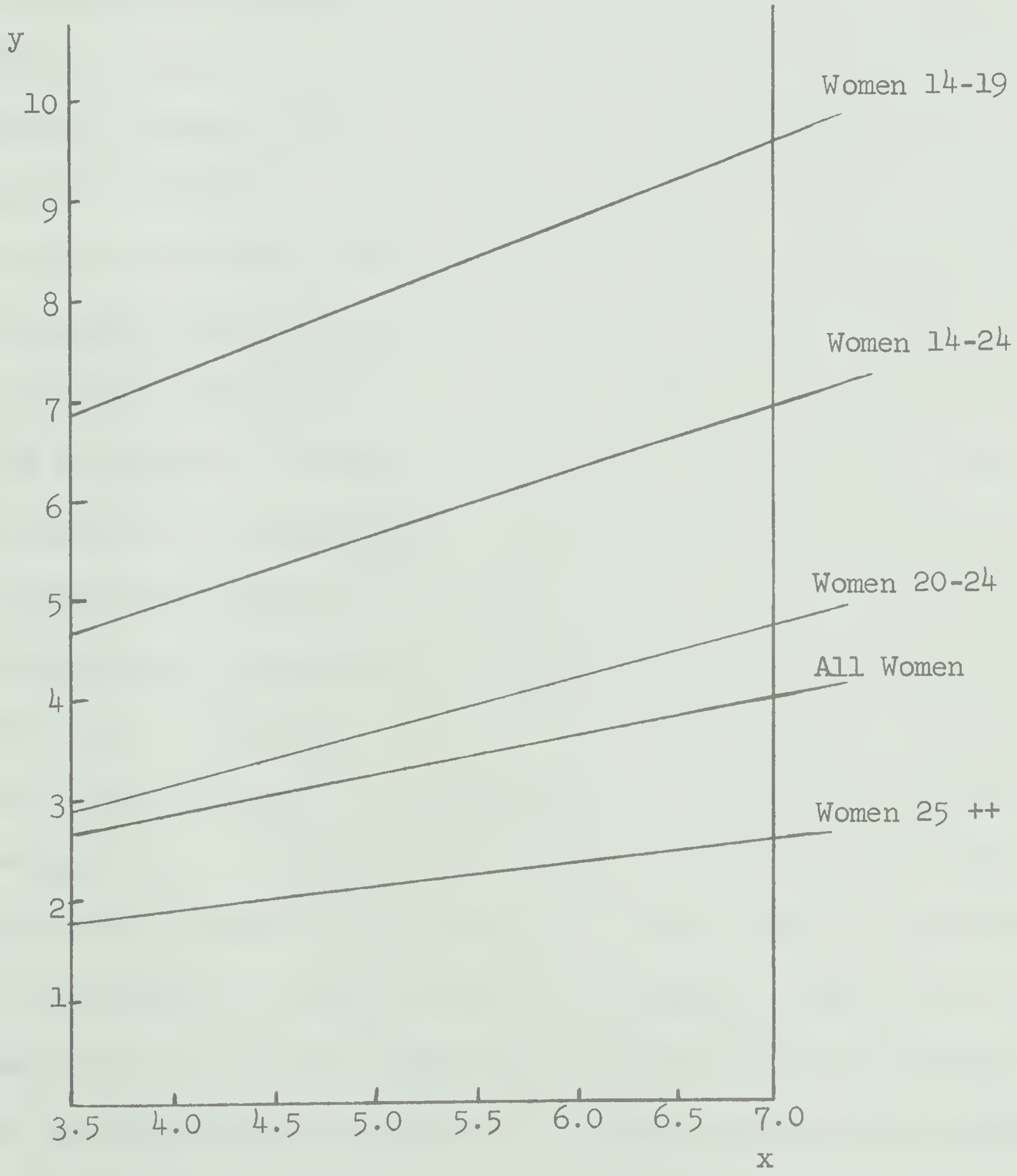
The data in Table IV-7 and especially R^2 indicates that the female labour force groups have a lower correlation with the national rate of unemployment compared to the male labour force groups whose results were given in the last chapter. On the basis of this one would expect to find the female labour force group unemployment rates to be less influenced by changes in the national rate of unemployment. However it must be pointed out that these correlation coefficients are high in themselves and are only low in comparison to the male coefficients. The results from the regression equations are given in Table IV-8, while the regression lines are plotted in Figure IV-2.

TABLE IV-8

FEMALE ESTIMATED RATES OF UNEMPLOYMENT FROM REGRESSION EQUATIONS

GROUP	REGRESSION EQUATIONS	x = 3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
All Women	$y = 1.354 + 0.392\,x$	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1
Women 14-19	$y = 4.3 + 0.757\,x$	6.9	7.3	7.7	8.1	8.5	8.8	9.2	9.6
Women 20-24	$y = 1.162 + 0.508\,x$	2.9	3.2	3.4	3.7	4.0	4.2	4.5	4.8
Women 14-24	$y = 2.35 + 0.668\,x$	4.7	5.0	5.4	5.7	6.0	6.4	6.7	7.0
Women 25 & Over	$y = 0.853 + 0.26\,x$	1.8	1.9	2.0	2.2	2.3	2.4	2.5	2.7

FIGURE IV-2
WOMEN REGRESSION LINES



The data in Table IV-8 indicates that for all women as a group, a change of one per cent in the national rate of unemployment will lead to a change of 0.4 per cent in the rate for all women. In chapter III it was found that the rate of change for all men as a group was 1.2 per cent for every one per cent change in the national rate of unemployment. This means that the male total rate of change (1.2) is three times as high as the female total rate of change (0.4). In short for every woman unemployed at least three men were unemployed during the period 1961 to 1970. The women aged 14 to 19 on the other hand had a higher rate of change as would be expected. For every one per cent change in the national rate of unemployment the 14-19 female age group will change by 0.8 per cent which is twice as much as the rate for all women as a group. In the last chapter it was shown that the male age group 14-19 would change by two per cent, meaning that the male rate is 2 1/2 times as high as the female rate for the 14-19 age group. In other words for every woman unemployed there were five men aged 14 to 19 unemployed. In the age group 20-24 years old the rate of change for women was 0.5 per cent for every one per cent change in the national rate of unemployment, compared to two per cent for the male aged 20-24 years. This means that for every woman aged 20 to 24 unemployed there were four men aged 20 to 24 unemployed. Considering a larger group of women aged 14 to 24 years it will be seen in Table IV-8 that their rate of change was 0.7 per cent for every one per cent change in the national rate of unemployment. The male rate for the same age group 14-24 the rate was found to be two per cent meaning that for every woman unemployed in the 14 to 24 age group about three men in the same age group were unemployed. For women aged 25 and over the rate of change was 0.2 per cent for every one per cent change in the national rate of unemployment, compared with

a rate of 1.1 per cent for men in the same age group. This means that for every woman aged 25 and over who was unemployed at least five men in the same age group were unemployed. It also means that for every woman in this group unemployed there were four women in the 14-19 age group unemployed.

This regression analysis leads to the conclusion that there is a wide disparity in the female labour fource groups rate of change when the national rate of unemployment changes. This is particularly so when the 14-19 age group is compared to the other female labour force groups. While this can also be said for the male labour force groups, it has been found that the female age groups differ fundamentally from their male counterparts with respect to the rate of change when the national rate of unemployment changes. Thus while the incidence of unemployment is very high among the 14 to 24 female members of the labour force it is three times as much among their male couterparts.

CHAPTER V

THE INCIDENCE OF UNEMPLOYMENT BY MARITAL STATUS

It was pointed out earlier on that the age and sex composition of the labour force is an important factor in that it determines the participation rate of that labour force. However, important to both age and sex is the marital status of the individual in question, as a number of studies have shown that there is a strong connection between the marital status of an individual and his participation in the labour force. This is particularly so for women whose commitment to the labour force is determined among other things by marital status. For an insight into the female labour force participation reference should be made to a study by Spencer and Featherstone; Married Female Labour Force Participation: A micro study, D.B.S. (1970)

The purpose in this Chapter is to find out whether marital status has any relationship to the incidence of unemployment. In other words whether married people have a different incidence of unemployment from the unmarried people, and also whether the married males fare differently from their female counterparts.

Having established in the past chapters that there are important differences in the incidence of unemployment by age and sex, it is the purpose of this chapter to find out if the marital status of the labour force has in any way been a factor in the incidence of unemployment during the period 1961 to 1970. The annual unemployment rates by marital

status are given in Table V-1 while the same data is plotted in Figure V-1.

TABLE V-1

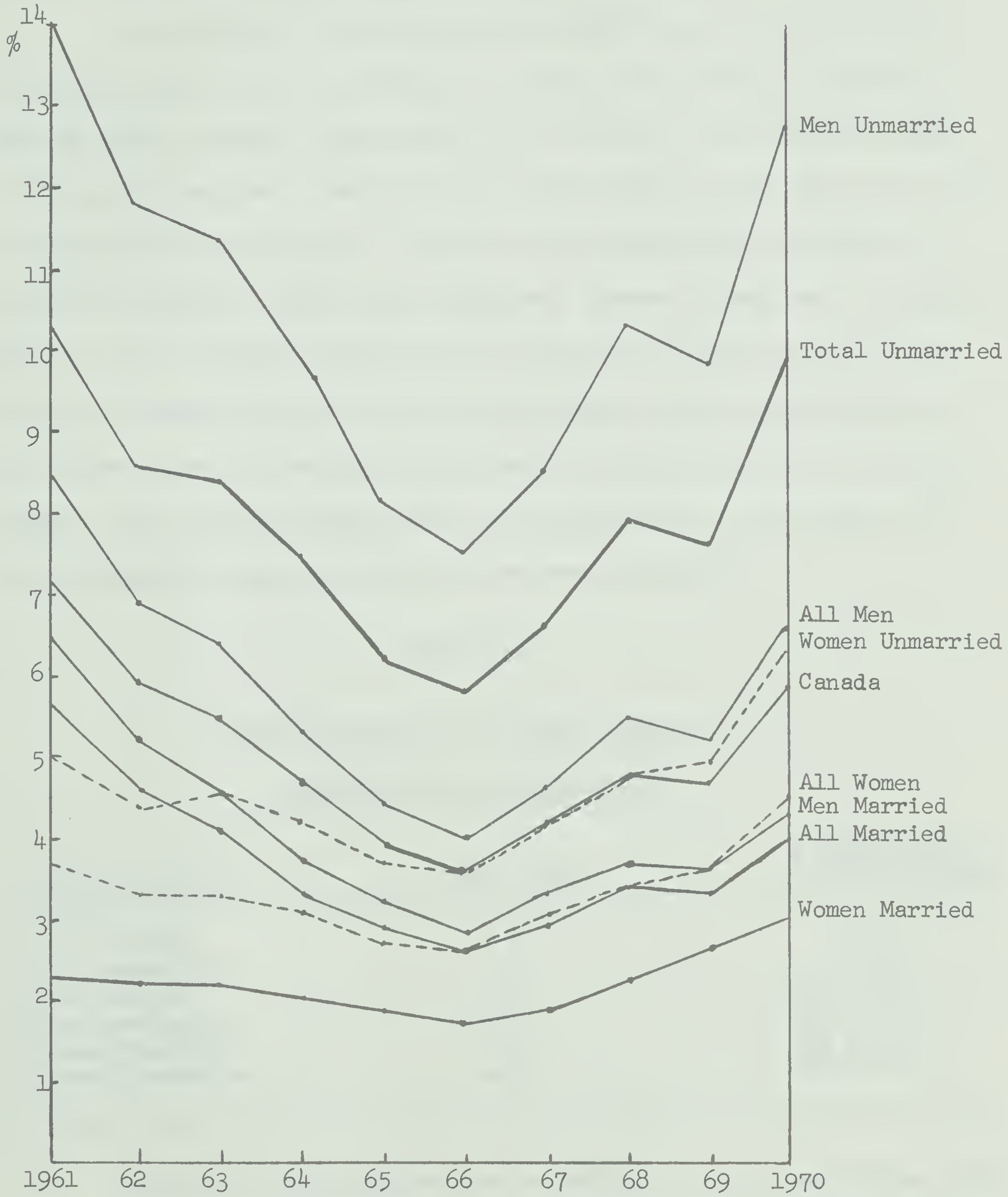
MARITAL STATUS 1961-70 UNEMPLOYMENT RATES

MARITAL STATUS	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
All Married	5.6	4.6	4.1	3.3	2.9	2.6	2.9	3.4	3.3	4.0
All Non-Married	10.2	8.6	8.4	7.5	6.2	5.8	6.6	7.9	7.6	10.0
Men Married	6.4	5.2	4.6	3.7	3.2	2.8	3.3	3.7	3.6	4.3
Men Non-Married	14.0	11.8	11.4	10.0	8.1	7.5	8.5	10.3	9.8	12.8
Women Married	2.3	2.2	2.2	2.0	1.9	1.7	1.9	2.2	2.6	3.0
Women Non-Married	5.0	4.4	4.5	4.2	3.7	3.6	4.2	4.8	4.9	6.4

Source: Labour Force Statistics, Seasonally Adjusted, D.B.S.

Looking at Figure V-1, it will be seen that the highest rates of unemployment were among the non-married men of the labour force while the lowest were among the married women. The second highest rates were among all the non-married of both sexes, followed by non-married women, married men and next to the lowest all married of both sexes. Besides these groups three more rates were plotted in Figure V-1, for the sake of comparison, they include the national rates, all men and all women as labour force groups. It will be seen that unmarried men and all unmarried for both sexes had rates above the national unemployment rates, while the rates for unmarried women were below the national rate from 1961 to 1966 after which they lay above for the remainder of this period. Married men and women had rates permanently below the national rate of unemployment. In short there is a clear division here in that all unmarried groups were above national rates of unemployment except for the unmarried women who fluctuated above and below the national rate. All married labour

FIGURE V-1
UNEMPLOYMENT RATES BY MARITAL STATUS 1961-70



force groups had rates below the national rate of unemployment. To find out more about this pattern of unemployment between the married and the unmarried the 1961-70 mean rates will be analysed next.

The data for the mean rates for 1961-70 and the distribution of unemployment is given in Table V-2 where it will be seen that while married women recorded a mean rate of 2.2 per cent, the unmarried women on the other hand had a rate of 4.6 per cent which is more than twice the rate for the married women. Thus for every married woman unemployed at least two unmarried women were unemployed. However, compared to unmarried men it can be observed that with a mean rate of 10.4 per cent the unmarried men carried 69 per cent of the unemployed in the unmarried group of both sexes, leaving the unmarried women to carry 31 per cent of the unemployed. This therefore means that in the unmarried of both sexes, for every unemployed woman at least two men were unemployed.

TABLE V-2

MARITAL STATUS 1961-70 MEAN RATES AND DISTRIBUTION OF UNEMPLOYMENT

MARITAL STATUS	MEAN RATE	% DISTRIBUTION OF UNEMPLOYMENT
1. All Married	3.7	100 %
2. All Unmarried	7.9	100 %
3. Men Married	4.1	65% of (1)
4. Men Unmarried	10.4	69% of (2)
5. Women Married	2.2	35% of (1)
6. Women Unmarried	4.6	31% of (2)

A look at the unmarried men in relation to the married men will reveal that the unmarried rate of 10.4 per cent is almost 2 1/2 times the rate of 4.1 per cent for the married men. This indicates that for every

married man unemployed at least more than two unmarried men were unemployed. At the same time the rate of 4.1 per cent for married men is almost twice the rate of 2.2 per cent for married women thereby indicating that for every married woman unemployed there were two married men unemployed. Continuing with this analysis, for every married woman unemployed there were about five unmarried men unemployed. It is apparent from this analysis of the mean rates that the incidence of unemployment is highest among the unmarried of both sexes. In either sex they carry over 50 per cent of the unemployed, however the incidence is much higher for the male unmarried than for the female unmarried. For the married, although the incidence of unemployment is lower than for the unmarried, it was established that the married women had a much lower incidence of unemployment compared to their male counterparts. In short the mean rates indicate a low incidence of unemployment among women both married and unmarried compared to men while at the same time the incidence is lowest among the married of both sexes compared to the unmarried of both sexes.

To find out whether the above situation remained the same or changed during the period under study the years 1961, 1966 and 1970 will be analysed following the procedure already established in earlier chapters. The 1961 rates and distribution of unemployment are given in Table V-3 where it will be seen that the highest rates were among the unmarried men 14.0 per cent, followed by all unmarried of both sexes with 10.2 per cent. The lowest rates were among the married women with 2.3 per cent followed by the unmarried women with 5.0 per cent.

TABLE V-3

MARITAL STATUS 1961 RATES AND DISTRIBUTION OF UNEMPLOYMENT

MARITAL STATUS	1961 RATE	% DISTRIBUTION OF UNEMPLOYMENT
1. All Married	5.6	100 %
2. All Unmarried	10.2	100 %
3. Men Married	6.4	74% of (1)
4. Men Unmarried	14.0	74% of (2)
5. Women Married	2.3	26% of (1)
6. Women Unmarried	5.0	26% of (2)

From Table V-3 it can be learned that for women while the married had a rate of 2.3 per cent, the unmarried had a rate of 5.0 per cent meaning that for every married woman unemployed at least more than two unmarried women were out of work. This is almost the same ratio as the one obtained from the mean rates. Comparing married women with married men whose rate was 6.4 per cent it suggests that for every married woman unemployed at least three married men were unemployed. Thus in 1961 this ratio was much higher than for the mean rate when it was one for two married men, suggesting that the incidence of unemployment for married men was higher in 1961. The unmarried men with a rate of 14.0 per cent had a much higher incidence of unemployment in that for every married woman unemployed at least five unmarried men were out of work. Taking the unmarried women with their rate of 5.0 per cent and comparing it with the unmarried men with 14.0 per cent it can be concluded that for every unmarried woman unemployed about three unmarried men were unemployed. This ratio is much lower than one for five obtained from the mean rates. In terms of the distribution of unemployment Table V-3 indicates that for

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[illegible]

[illegible]

[illegible]

both married sexes the men carried 74 per cent of the unemployed, leaving the women with only 26 per cent. Exactly the same distribution holds for the unmarried of both sexes where the men carried 74 per cent and the women 26 per cent.

A conclusion that can be drawn from these results is that while the pattern of unemployment remained the same in 1961 as it was for the mean rates, the distribution changed somewhat against the male and therefore in favour of the female labour force. The next step is to analyse the data for 1966 and see if these features underwent any change.

The data for 1966 is given in Table V-4 where it will still be observed that the unmarried men had the highest rate of 7.5 per cent followed by the unmarried for both sexes with a rate of 5.8 per cent. The married women had the lowest rate of 1.7 per cent followed by all married for both sexes with 2.6 per cent.

TABLE V-4

MARITAL STATUS 1966 RATES AND DISTRIBUTION OF UNEMPLOYMENT

MARITAL STATUS	1966 RATE	% DISTRIBUTION OF UNEMPLOYMENT
1. All Married	2.6	100 %
2. All Unmarried	5.8	100 %
3. Men Married	2.8	62% of (1)
4. Men Unmarried	7.5	68% of (2)
5 Women Married	1.7	38% of (1)
6. Women Unmarried	3.6	32% of (2)

Taking the married women first, it is clear from Table V-4 that when compared to the unmarried women with a rate of 3.6 per cent, for every married woman out of work at least two unmarried women were unemployed. This

is exactly the same rate as was obtained from the 1961 data. However, when compared to married men with a rate of 2.8 per cent the married women rate of 1.7 per cent is less than twice that for men. What this means is that in 1966 for every married woman unemployed there were less than two married men out of work, a ratio much smaller than one for three obtained from the 1961 data. This situation is a result of the very low rate for the married of both sexes in 1966. When married women are compared the unmarried men with a rate of 7.5 in 1966, it can be seen that for every married woman unemployed, five unmarried men were unemployed. The same results were obtained from the 1961 data as well as for the mean rates 1961-70.

Looking at unmarried men with a rate twice that of the married men suggests that for each married man unemployed, two unmarried men were unemployed. It is rather surprising that the ratio of the rates of the married to the unmarried is almost the same (1:2) for both sexes. In terms of percentage distribution of unemployment married men carried 62 per cent of the married unemployed while married women carried the remaining 38 per cent. For the unmarried, men carried 68 per cent of the unmarried unemployed while the women carried 32 per cent. These figures therefore indicate the general pattern outlined above that unmarried men have a higher incidence of unemployment than married men considering that for every married man out of work at least two unmarried men will be unemployed. The same holds for women. However a word of caution in interpreting the percentage distribution of unemployment __ these figures are based on the unemployed in each group rather than on the total labour force as such. In general a conclusion can be made that the structure and pattern of unemployment in 1966 was basically the same as it was for the mean

rates 1961-70. The only minor difference was the reduction in the ratio of unemployed married women to the unemployed married men from 1:3 for the mean rates 1961-70 to 1:2 in 1966.

Taking the year 1970 as will be seen from the data in Table V-5 the rates of unemployment were up again almost to the 1961 level. The highest rates occurred among the unmarried men with 12.8 per cent compared to 14.0 per cent in 1961. This group was followed by the unmarried for both sex with 10.0 per cent compared to 10.2 per cent in 1961. The lowest rates as usual was among the married women with 3.0 per cent compared to 2.3 per cent in 1961. The unmarried women had a rate of 6.4 per cent compared to 5.0 per cent in 1961, while married men had a rate of 4.3 per cent compared to 6.4 per cent in 1961.

TABLE V-5

MARITAL STATUS 1970 UNEMPLOYMENT

AND DISTRIBUTION

MARITAL STATUS	1970 RATE	% DISTRIBUTION OF UNEMPLOYMENT
1. All Married	4.0	100 %
2. All Unmarried	10.0	100 %
3. Men Married	4.3	59 % of (1)
4. Men Unmarried	12.8	67 % of (2)
5. Women Married	3.0	41 % of (1)
6. Women Unmarried	6.4	33 % of (2)

Looking at Table V-5, it will be seen that the rate for unmarried women is twice that for married women. This essentially means that for every married woman out of work there were two unmarried women unemployed in 1970. It will be remembered that this is exactly the same ratio which was obtained from the mean rates 1961-70, and for the years 1961

and 1966. In this respect the pattern and incidence of unemployment did not change in the 1960's when the married and the unmarried women are compared. In 1970 the unmarried men had a rate thrice that of the married men implying again that for every married man out of work three unmarried men were unemployed. This it will be recalled was the same ratio obtained in 1966 while for 1961 and the mean rates 1961-70 the ratio was a bit low meaning that after 1961 there was a tendency for this ratio to increase. However this change was only a change from a ratio of 1:2 in 1961 to 1:3 thereafter.

Comparing the married men with women it will be observed from Table V-5 that men had a rate of 4.3 per cent while women had 3.0 per cent, which means that for the first time the male rate was less than twice the female rate. This apparent improvement over the past years was because the rate for married women reached its highest point in 1970 while the rate for the married men had its highest point in 1961, otherwise there was hardly any sign for improvement during the 1960's. For a clear insight into this relationship refer to Figure V-1.

In terms of the distribution of the burden of unemployment in 1970, it will be seen from Table V-5 that married men carried 59 per cent of the married unemployed while married women carried 41 per cent. This low load for men and a high load for women is a result of the unemployment rate relationship pointed out in the last paragraph above. For the unmarried, men carried 67 per cent of the unemployed while women carried the remaining 33 per cent. This is the same distribution that was found in the data so far presented meaning that there was hardly any change in 1970 from the previous situation.

A summary of this section can be made that using marital status

as a criterion there were significant differences between the married and the unmarried rates of unemployment. That in each group the female outperformed their male counterparts and that therefore in terms of the incidence of unemployment the male had a higher incidence than the female just as the unmarried had a higher one over the married. However, when all is said, there was no basic change either in the pattern or in the incidence of unemployment by marital status in the 1960's.

The Regression Analysis

On the basis of marital status a regression and correlation analysis was made using annual average rates of unemployment because monthly or quarterly data was not readily available. As in the previous chapters, the purpose here was to estimate the change in the group rates of unemployment given a change in the national rate of unemployment. The correlation coefficients and the regression equations are given in Table V-6.

TABLE V-6

MARITAL STATUS CORRELATION AND REGRESSION EQUATIONS

MARITAL STATUS	R^2	REGRESSION EQUATIONS	s
All Married	0.97933	$y = 0.507 + 0.832x$	0.06
All Unmarried	0.96078	$y = 1.27 + 1.317x$	0.13
Men Married	0.96643	$y = 0.776 + 0.967x$	0.09
Men Unmarried	0.98770	$y = 0.79 + 1.918x$	0.11
Women Married	0.59259	$y = 1.16 + 0.207x$	0.09
Women Unmarried	0.64388	$y = 2.186 + 0.475x$	0.20

As will be seen from Table V-6 the correlation coefficients are very high at least 0.9 except for women where they approximate 0.6. In the previous chapter it was found that on the whole the female rates show a lower cor-

relation coefficient with the national rate than the male rates, and this is why on marital basis the female coefficients are lower than those for the male. The data in the table also indicates that unmarried rates have a higher correlation coefficient than the married rates thereby indicating that the unmarried rates are more sensitive to changes in the national rates than the married rates.

A look at the rates of change given in Table V-7 and also plotted in Figure V-2 indicates that for all married of both sex every one per cent change in the national rate of unemployment will lead to a 0.8 per cent change in the all married rate. For the total unmarried the rate of change is 1.3 per cent for every one per cent change in the national rate. The married men on the other hand will change by one per cent for every one per cent change in the national rate, while unmarried men change by 1.9 per cent, i.e., almost twice the rate for the married men.

TABLE V-7

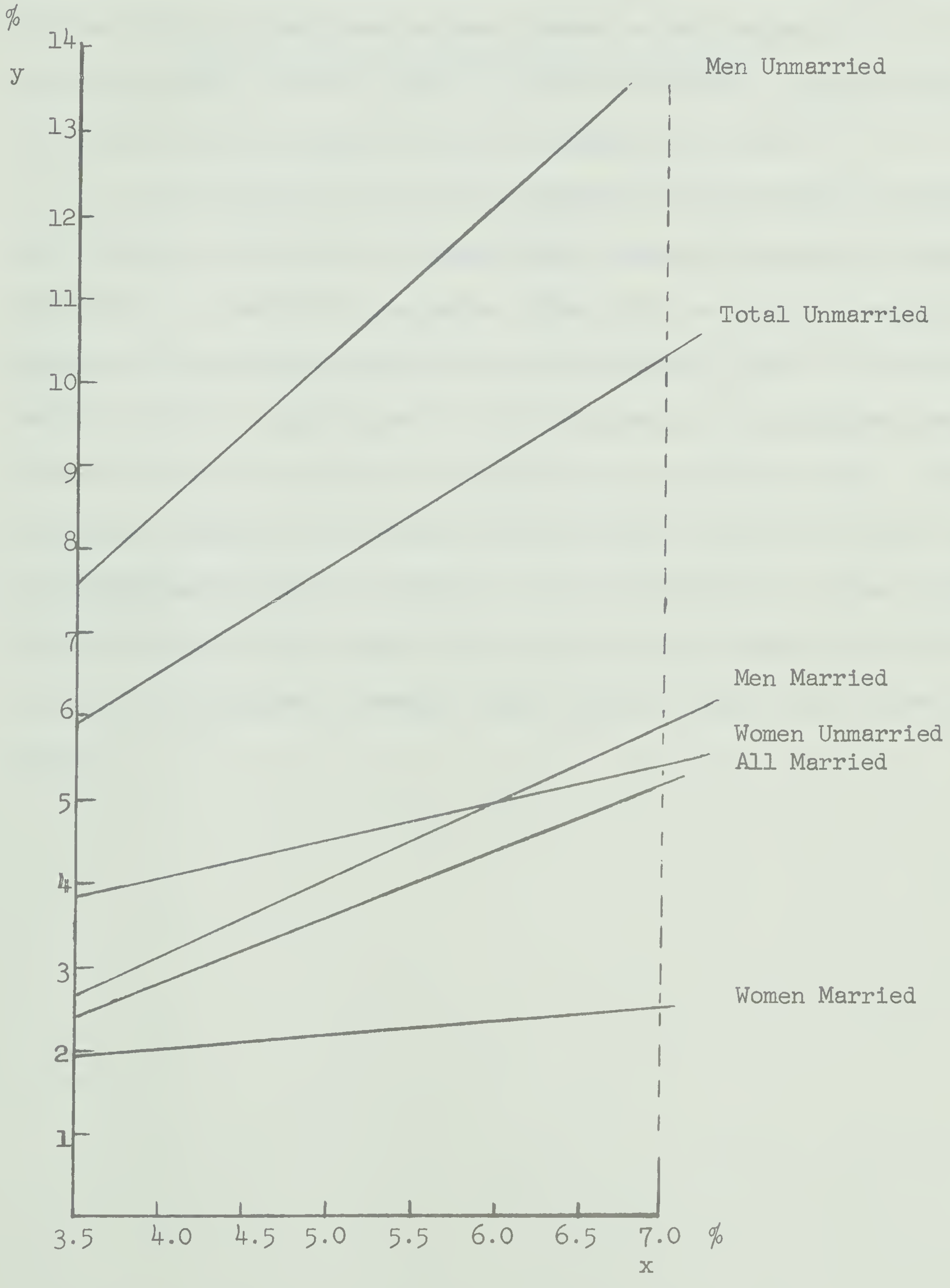
MARITAL STATUS ESTIMATED RATES

FROM REGRESSION EQUATIONS

MARITAL STATUS	EQUATION	x = 3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
All Married	$y = -0.507 + 0.832x$	2.4	2.8	3.2	3.7	4.1	4.5	4.9	5.3
All Unmarried	$y = 1.27 + 1.317x$	5.9	6.5	7.2	7.9	8.5	9.2	9.8	10.5
Men Married	$y = 0.776 + 0.967x$	2.6	3.1	3.6	4.1	4.5	5.0	5.5	6.0
Men Unmarried	$y = 0.79 + 1.918x$	7.5	8.5	9.4	10.4	11.3	12.3	13.3	14.2
Women Married	$y = 1.16 + 0.207x$	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6
Women Unmarried	$y = 2.18 + 0.475x$	3.8	4.1	4.3	4.6	4.8	5.0	5.3	5.5

Married women have the smallest rate of change of 0.2 per cent for every one per cent change in the national rate of unemployment. The unmarried

FIGURE V-2
MARITAL STATUS: REGRESSION LINES



women rate of change is 0.5 per cent for every one per cent change in the national rate. Looking back at the regression results obtained in chapter IV it was found that for women 25 years and over their rate of change was 0.2 per cent for every one per cent change in the national rate. It would therefore seem that women 25 years and over are largely married since the rate of change of these two groups is the same.

In conclusion it has been observed that throughout the 1960's the structure and pattern of unemployment remained basically the same at the end as it was at the beginning. That this has been the tone for the regions, sex and age groups as well as for marital status. And that for marital status a high disparity in the incidence of unemployment has been observed among the unmarried of both sex and the married male. Lastly, regression equations have been provided to help estimate the group rates of unemployment given the national rate of unemployment. These estimates are quite close to the actual historical data and unless the structure and pattern of unemployment changes, they should be useful for future projections.

CHAPTER VI

THE INCIDENCE OF UNEMPLOYMENT BY INDUSTRY

In Chapter I a remark was made that economic growth is not an equilibrium process but rather a process whose impact is unevenly distributed among industries and sectors of the economy. It was also shown that the 1960's was a decade of phenomenal growth in the Canadian economy. Since the growth of the economy and its distribution among industries are important factors affecting the demand for labour, it is equally important to look at the incidence of unemployment by industry. This is particularly so especially when it is realized that some industries are more prone to unemployment than others and also that as the economy grows some industries wane as others prosper.

According to the D.B.S. classification, industries are grouped under (1) Primary industries which includes agriculture, forestory, fishing and trapping, mines, quarries and oil wells; (2) Manufacturing: (3) Construction; (4) Transportation and other utilities covering transportation, storage, communication, electric power, gas and water utilities; (5) Trade: (6) Service which includes community, business and personal service, public administration, finance, insurance and real estate. In this chapter this classification will be used.

The unemployment rates by industry were collected unadjusted on a quarterly basis and were then seasonally adjusted, and are given in Appendix D. The annual average rates are given in Table VI-1 while the same data is plotted in Figure VI-1. See also Appendix D.

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TABLE VI-1

UNEMPLOYMENT RATES BY INDUSTRY 1961-70

YEAR	ALL INDUSTRY	PRIMARY	MANUFACTURING	CONSTRUCTION	TRANSPORTATION	TRADE	SERVICES	CANADA
1961	7.1	7.5	6.6	21.0	6.5	4.6	3.8	7.1
1962	6.0	6.7	5.3	17.0	5.4	3.8	3.2	5.9
1963	5.5	5.9	4.8	15.2	5.1	3.7	3.0	5.5
1964	4.7	4.7	4.2	12.8	4.3	3.2	2,8	4.7
1965	4.0	4.2	3.3	10.5	3.8	2.5	2.4	3.9
1966	3.7	4.0	3.3	9.4	3.6	2.4	2.1	3.6
1967	4.2	4.0	4.1	11.6	4.2	2.7	2.3	4.1
1968	4.9	5.0	4.7	13.0	4.5	3.4	2.9	4.8
1969	4.8	5.0	4.5	12.0	4.3	3.4	2.8	4.7
1970	6.2	6.0	6.1	16.7	5.2	4.4	3.3	5.9

Source; Adjusted from Labour Force Statistics, D.B.S.

Looking at Table VI-1 and Figure VI-1 the general pattern which emerges is that the Construction Industry had the highest rates of unemployment, at least thrice as high as the rates for all Industry. The Construction Industry was followed by the Primary Industry, Manufacturing and Transportation. The lowest rates were in Service and Trade Industries so that together with Transportation and Manufacturing they were all below the national rate of unemployment. However looking at Figure VI-1 three divisions can be seen__the Construction Industry stands out on its own, second division is composed of Primary Industry, Manufacturing and Transportation which tend to move together, and lastly Trade and Service Industries laying at the bottom.

To discover the structure and pattern of unemployment by Industry the starting point will be the mean rates for the period 1961-70. These rates and the distribution of unemployment are given in Table VI-2 where it will be seen that while the mean for all industry was 5.1 per

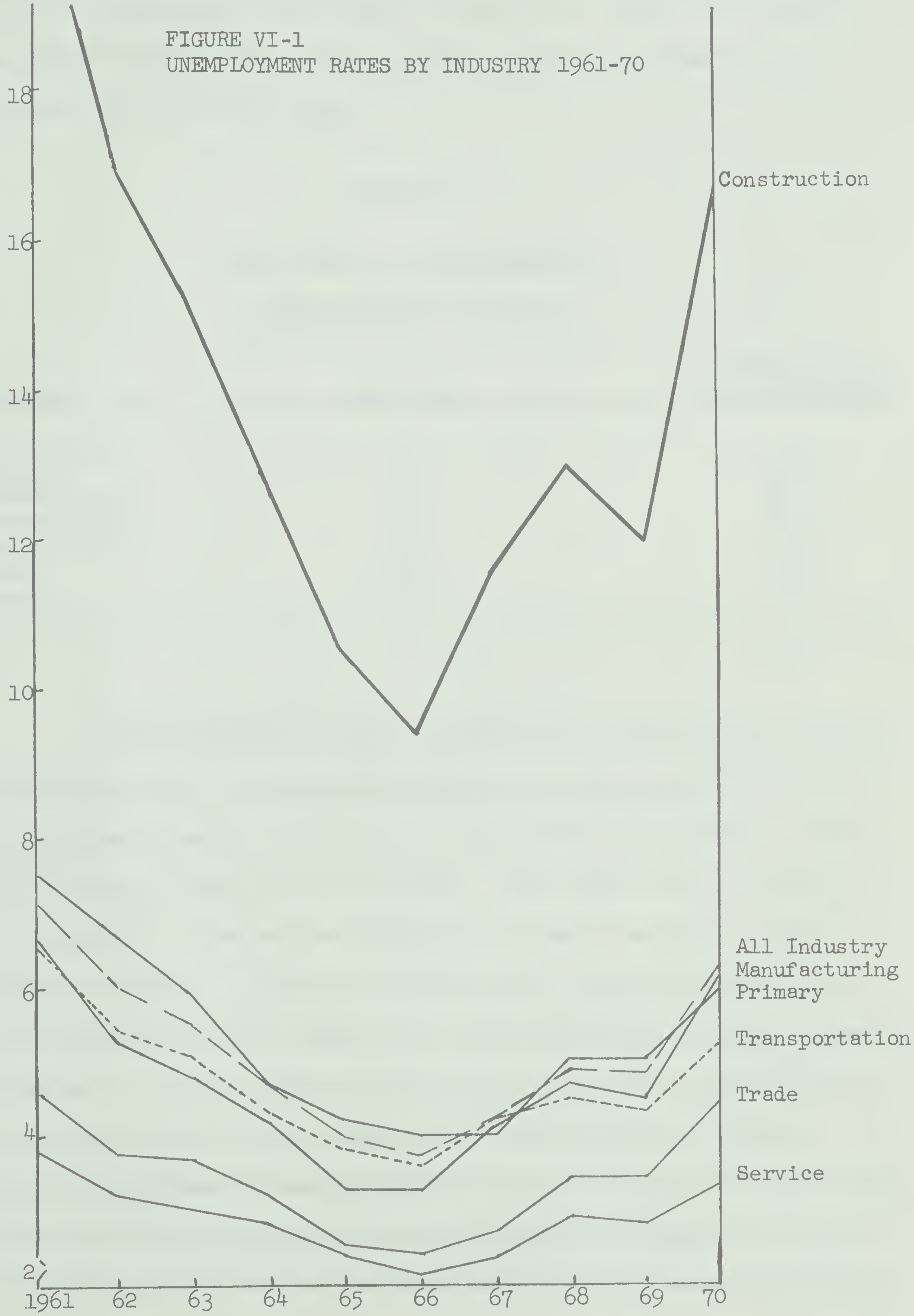


FIGURE VI-1
UNEMPLOYMENT RATES BY INDUSTRY 1961-70

cent the construction industry had 13.9 per cent This is very surprising especially when other industries like the Service Industry had a mean rate of only 2.8 per cent.

TABLE VI-2

MEAN RATES AND DISTRIBUTION OF UNEMPLOYMENT BY INDUSTRY

INDUSTRY	MEAN RATE	% DISTRIBUTION OF UNEMPLOYMENT
All Industry	5.1	-
Primary	5.3	15 %
Manufacturing	4.7	14 %
Construction	13.9	40 %
Transportation	4.7	13 %
Trade	3.4	10 %
Service	2.8	8 %
		100 %

From Table VI-2 it will be observed that comparing the distribution of the burden of unemployment between industries reveals that the Construction Industry with 40 per cent had exactly five times the burden in the Service Industry with 8 per cent This means that for every person unemployed in the Service Industry, five were unemployed in the Construction Industry. In the same way for every person unemployed in the Trade Industry four were unemployed in the Construction Industry However comparing it with the Primary Industry for every person unemployed there at least more than two were unemployed in the Construction Industry. In short, the incidence of unemployment was unevenly distributed among industries with the Construction and Primary Industries carrying 55 per cent of the burden, Manufacturing and Transportation 27 per cent, while Trade

and Service carried the remaining 18 per cent The next step is to see whether the same pattern existed in 1961.

In 1961 the rates of unemployment were highest for all industries during the period 1961 through to 1970. The 1961 rates and the distribution of unemployment are given in Table VI-3 where it will be seen that the Construction Industry had the highest rate of 21.0 per cent. The lowest was in the Service Industry with 3.8 per cent, followed by the Trade Industry with 4.6 per cent. Manufacturing and Transportation were very close 6.6 and 6.5 per cent respectively, while the Primary Industry with 7.5 per cent was the next highest after the Construction Industry.

TABLE VI - 3

1961 RATES AND DISTRIBUTION OF UNEMPLOYMENT BY INDUSTRY

INDUSTRY	1961 RATES	% DISTRIBUTION OF UNEMPLOYMENT
All Industry	7.1	-
Primary	7.5	15 %
Manufacturing	6.6	13 %
Construction	21.0	42 %
Transportation	6.5	13 %
Trade	4.6	9 %
Service	3.8	8 %
		100 %

Looking at the distribution of unemployment in Table VI-3 it can be observed that the Primary Industry with 15 per cent, Transportation with 13 per cent and the Service Industry with 8 per cent have all remained the same as in the distribution from the mean rates. The Trade

and Manufacturing Industries are the only ones which improved on their position, but even then by only one per cent each. As a result of this the Construction Industry picked up two per cent more to make its burden of unemployment 42 per cent in 1961 compared to 40 per cent for the mean rates 1961-70.

A conclusion which can be drawn from the data for 1961 is that the burden or incidence of unemployment has remained basically the same as it was for the mean rates 1961-70. The Construction and Primary Industries accounted for 57 per cent of unemployment in 1961 compared to 55 per cent for the mean rates 1961-70. Manufacturing and Transport had 26 per cent in 1961 compared to 27 per cent for the mean rates 1961-70, while Trade and Service had 17 per cent in 1961 compared to 18 per cent for the mean rates 1961-70. The next step is to analyse the data for 1966 and see if there were any changes.

As already pointed out in earlier chapters in 1966 the unemployment rates were lowest for all industries. The 1966 rates and distribution of unemployment are given in Table VI-4 where it will be seen that the Construction Industry had the highest rate of 9.4 per cent while the lowest was in Service with 2.1 per cent. However, looking at the distribution of unemployment, it will be seen that Manufacturing and Service Industries have remained the same with 13 and 8 per cent respectively as they had in 1961.

TABLE VI-4

1966 RATES AND DISTRIBUTION OF UNEMPLOYMENT BY INDUSTRY

INDUSTRY	1966 RATES	% DISTRIBUTION OF UNEMPLOYMENT
All Industry	3.7	-
Primary	4.0	16 %
Manufacturing	3.3	13 %
Construction	9.4	38 %
Transportation	3.6	15 %
Trade	2.4	10 %
Service	2.1	8 %
		100 %

On the other hand, Trade and Primary Industries increased their burden of unemployment by one per cent each in 1966 from the 1961 position, while transportation increased the burden by two per cent over the same period. As a result of this the Construction Industry improved on the 1961 position by four per cent from 42 to 38 per cent.

However, apart from this four per cent improvement in Construction the structure and incidence of unemployment remained unchanged in 1966. Construction and Primary Industries carry a burden of 54 per cent of the unemployed compared to 57 per cent in 1961. Manufacturing and Transportation carried 28 per cent compared to 26 per cent in 1961, while Trade and Service had 18 per cent in 1966 compared to 17 per cent in 1961. In short there was no basic change in the incidence of unemployment in 1966 from 1961 position. The next move is to see what the situation was in 1970.

The 1970 rates and distribution of unemployment are given in Table VI-5.

TABLE VI-5

1970 RATES AND DISTRIBUTION OF UNEMPLOYMENT BY INDUSTRY

INDUSTRY	1970 RATES	% DISTRIBUTION OF UNEMPLOYMENT
All Industry	6.2	-
Primary	6.0	14 %
Manufacturing	6.1	15 %
Construction	16.7	40 %
Transportation	5.2	12 %
Trade	4.4	11 %
Service	3.3	8 %
		100 %

Looking at the incidence of unemployment it is rather surprising that for the whole period the Service Industry has remained constant at 8 per cent. The Construction industry now with 40 per cent had a decline of two per cent from the 1966, 38 per cent level. Manufacturing has also declined by two per cent from the 1966 level while Transportation has improved by three per cent from 15 per cent in 1966 to 12 per cent in 1970. Trade improved by one per cent from 1966 to 1970.

Although 1970 gives the impression that at least there were changes, these were not big enough to alter the basic structure of the incidence of unemployment from what was observed in 1961, 1966 and the mean rates 1961-70. So in 1970, Construction and Primary Industries accounted for 54 per cent exactly the same burden as in 1966. Manufacturing and Transportation had 27 per cent compared to 28 per cent in 1966, while Trade and Service had 19 per cent compared to 18 per cent in 1966.

In summary Table VI-6 gives the percentage distribution of unemployment for the years 1961, 1966, 1970 and the mean distribution for

1961-70.

TABLE VI-6

1961-70 % DISTRIBUTION OF UNEMPLOYMENT

BY INDUSTRY (SELECTED YEARS)

INDUSTRY	1961	1966	1970	1961-70
	%	%	%	%
All Industry	-	-	-	-
Primary	15	16	14	15
Manufacturing	13	13	15	14
Construction	42	38	40	40
Transportation	13	15	12	13
Trade	9	10	11	10
Service	8	8	8	8
	100	100	100	100

From the distribution given in Table VI-6 it can be concluded that while the actual rates of unemployment changed greatly from 1961 through to 1970, the structure and pattern of unemployment remained at large uninfluenced by these changes. As a result of this, the incidence of unemployment was basically the same in 1970 as it had been in 1966 and 1961.

The Regression Analysis

In an attempt to estimate each industry's rate of unemployment given the national rate of unemployment a correlation and regression analysis was performed using quarterly adjusted rates of unemployment. The results of this analysis are given in Table VI-7 which gives the correlation coefficients, regression equations and the standard error of estimate.

TABLE VI-7

CORRELATION AND REGRESSION RESULTS

INDUSTRY	R^2	REGRESSION EQUATION	s
All Industry	0.99042	y = -0.005 + 1.011 x	0.02
Primary	0.94653	y = 0.007 + 1.051 x	0.06
Manufacturing	0.96300	y = -0.356 + 1.0 x	0.05
Construction	0.97500	y = -2.027 + 3.164 x	0.12
Transportation	0.93729	y = 0.632 + 0.802 x	0.05
Trade	0.96913	y = -0.085 + 0.692 x	0.03
Service	0.95485	y = 0.504 + 0.465 x	0.02

As will be seen from the data in Table VI-7, the correlation between the industry rates of unemployment and the national rate is very strong while the standard error of estimate is very small indeed. On the basis of the regression equations in Table VI-7, estimated industry rates of unemployment were developed letting the national rate to run from 3.5 per cent to 7.0 per cent and changing by 0.5 each time, as done in all previous estimates. These results are reported in Table VI-8, while the regression lines are plotted in Figure VI-2.

TABLE VI-8

ESTIMATED INDUSTRY RATES OF UNEMPLOYMENT

FROM REGRESSION EQUATIONS

INDUSTRY	REGRESSION EQUATION	x = 3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
All Industry	y = -0.005+1.011 x	3.5	4.0	4.5	5 1	5.6	6.1	6.6	7.1
Primary	y = 0.007+1.051 x	3.7	4.2	4.7	5.3	5 8	6.3	6 8	7.4
Manufacture.	y = -0.356+1.0 x	3.1	3 6	4.1	4.6	5.1	5.6	6.1	6.6
Construct.	y = -2.027+3.164 x	9.0	10.6	12.2	13.8	15.4	17.0	18.5	20.1
Transport.	y = 0.632+0.802 x	3.4	3.8	4.2	4.6	5.0	5.4	5.8	6.2
Trade	y = -0.085+0.692 x	2.3	2.7	3.0	3.4	3.7	4.1	4.4	4.8
Service	y = 0.504+0.465 x	2.1	2.4	2.6	2.8	3.1	3.3	3.5	3.8

[illegible]

[illegible]

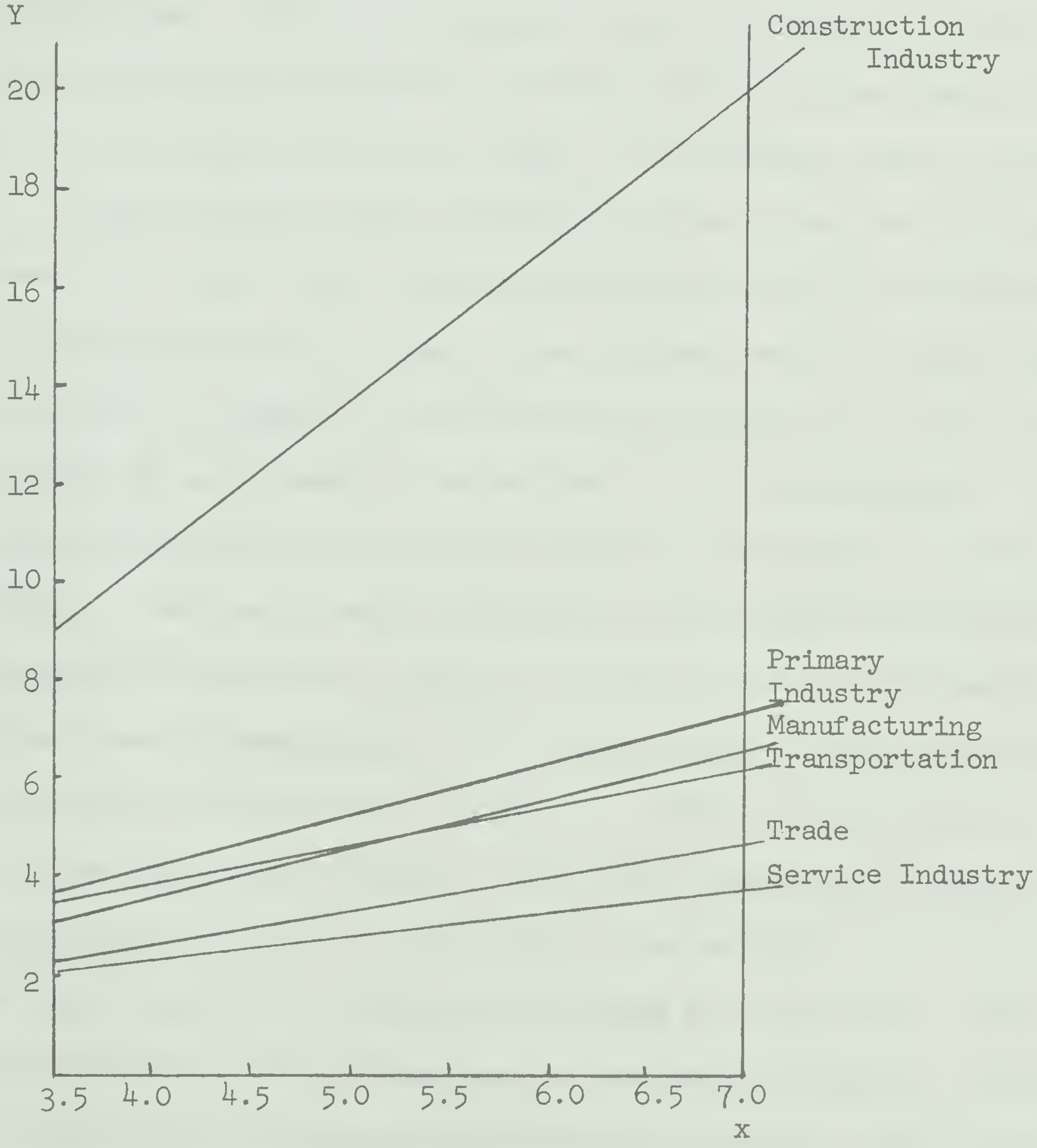
[illegible]

[illegible]

[illegible]

[illegible]

FIGURE VI-2
INDUSTRY REGRESSION LINES



From the estimates given in Table VI-8 a clear appreciation of their accuracy can be checked out using the seasonally adjusted annual rates given in Table VI-1. It will be seen that the regression for all industry yields rates which are the same as the national rates of unemployment except that after 5.0 per cent the industry rates will differ by 0.1 per cent from the national rates. Looking at the Primary Industry it will be observed that for every one per cent change in the national rate of unemployment, the primary industry rate will change by one per cent. The Manufacturing Industry on the other hand will also change by one per cent for every one per cent change in the national rate of unemployment While both the Primary and Manufacturing Industries do change by the same rate, their actual rates are different because of the difference in the magnitude and the sign of the constant term "a" in both equations. The rate of change for the Construction Industry is 3.2 per cent for every one per cent change in the national rate of unemployment In other words for every person unemployed either in the Primary or Manufacturing Industry there were three unemployed in the Construction Industry. For Transportation the rate of change is 0.8 per cent for every change in the national rate of unemployment. This would mean that for every person out of work in the Transportation Industry at least four people were out of work in the Construction Industry. The Trade Industry will change by 0.7 per cent for every one per cent change in the national rate of unemployment, while the Service Industry will change by 0.5 per cent. This implies that for every person unemployed in the Service Industry, two will be out of work in the Primary and Manufacturing Industries, while at least six people will be out of work in the Construction Industry.

In conclusion the regression results presented here do indicate

that there is a wide disparity in the rate of response to changes in the unemployment situation be Industry. This is particularly so between the Construction Industry which is the most sensitive and the other industries as well as between the Service Industry which the most insensitive and the other industries. This picture is likely to grow worse when seasonal factors which characterize some of these industries are taken into account.

CHAPTER VII

THE INCIDENCE OF UNEMPLOYMENT BY OCCUPATION

In the last five chapters the study has dealt with the regional, age and sex, marital status and the Industry incidence of unemployment. In all of these studies it has been found that despite significant changes in the rate of unemployment from 1961 through to 1970, the incidence of unemployment has remained basically unchanged. In this chapter, the study will deal with the incidence of unemployment by occupational groupings. The importance of this is that most occupational groupings cut across age, sex, regional and industry definitions thereby making it possible to gauge the impact of unemployment on the various occupational groups which comprise a single industry. The study will not however cover the whole period 1961 to 1970 because the occupational definitions have changed such that no comparable data is available for the whole period. Because of this data was collected on a quarterly basis from 1965 through to 1970. However, a similar analysis to that used in the previous chapters will be employed.

The D.B.S. classifies occupations into:- (1) Office and Professionals which includes managerial, professional and technical, clerical, sales, and communications occupations. (2) Transportation. (3) Service and recreation. (4) Primary which includes farming, fishing, trapping, logging and mining occupations. (5) Craftsmen, production process and related workers. (6) Labourers which covers labourers and unskilled workers not farming, fishing, logging or mining. In this Chapter

this classification will be used.

The annual average rates of unemployment by occupation is given in Table VII-1 while the same rates are plotted in Figure VII-1. The quarterly data used in the analysis is given in Appendix E_1. As will be seen from Table VII-1 and Figure VII-1, the occupational rates were lowest in 1966 and highest in 1970.

TABLE VII-1

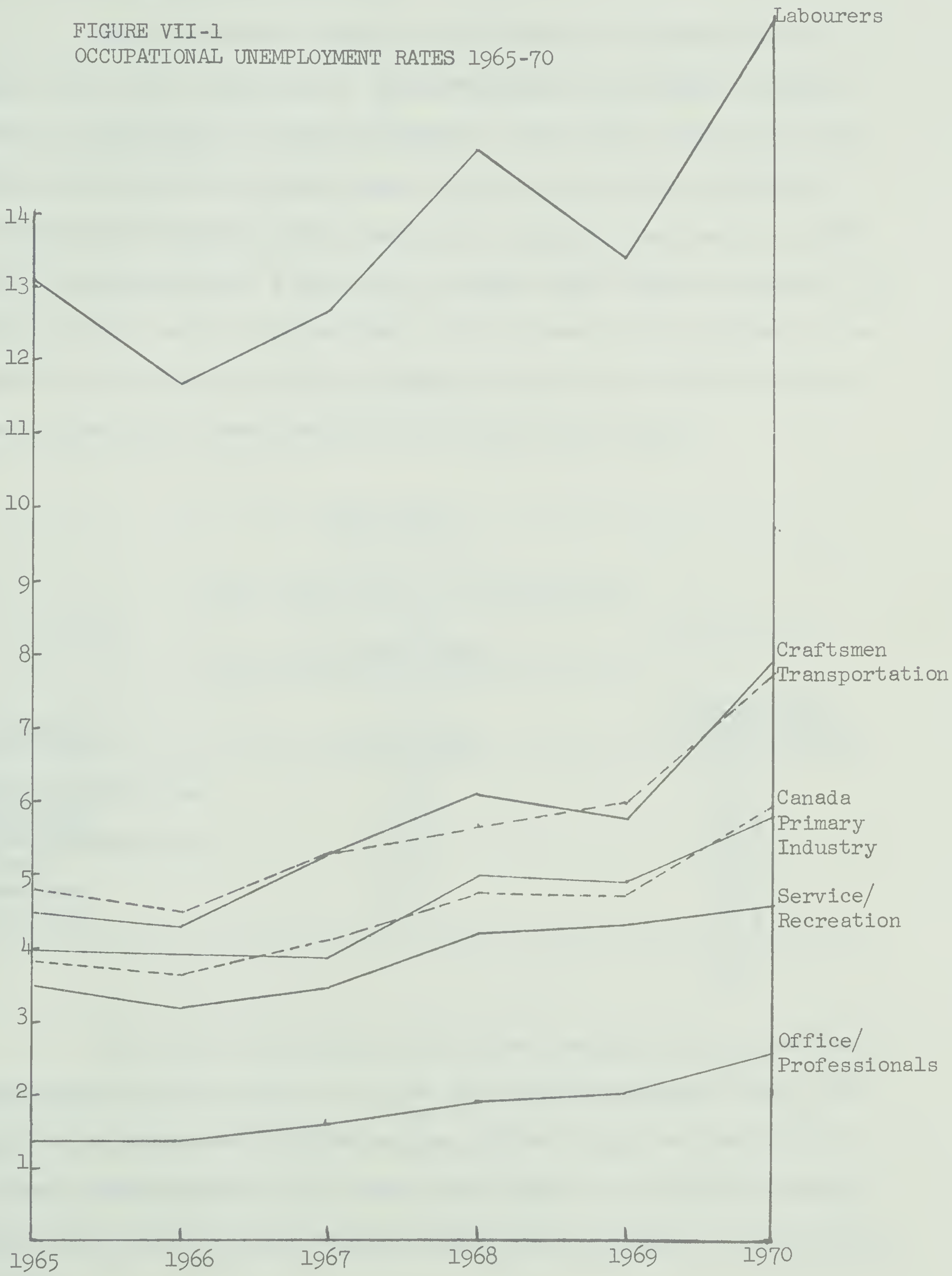
OCCUPATIONAL UNEMPLOYMENT RATES 1965-70

YEAR	OFFICE/PROF.	TRANSPORT	SERVICE/RECREATION	PRIMARY	CRAFTSMEN	LABOURERS
1965	1.4	4.8	3.5	4.0	4.5	13.1
1966	1.4	4.5	3.2	3.9	4.3	11.7
1967	1.6	5.3	3.5	3.9	5.3	12.7
1968	1.9	5.7	4.2	5.0	6.1	14.9
1969	2.0	6.0	4.3	4.9	5.8	13.4
1970	2.6	7.8	4.6	5.8	7.9	16.7

Source: Labour Force Statistics. Seasonally Adjusted, D.B.S.

Looking at Figure VII-1 it will be immediately realized that labourers have the highest rate of unemployment and for the period 1965 to 1970 the rate went below 12 per cent only once, in 1966. The rates for Transportation and Craftsmen lie below the Labourers but way down such that they went above the 6.0 per cent mark only in 1970. These three occupational groups__the Labourers, Transport and Craftsmen__had rates above the national rates of unemployment, while the Primary occupational rate and the national rate cross each other at almost regular intervals. The Service/Recreation and the Office/Professionals lay below the national rate, but with the Office/Professionals low down such that their rates were above

FIGURE VII-1
OCCUPATIONAL UNEMPLOYMENT RATES 1965-70



the 2.0 per cent only once in 1970.

To determine the structure and incidence of unemployment the mean rates 1965 - 70 are used. These rates and the resultant distribution of unemployment are given in Table VII-2. This table reveals the fact that while the Labourers had a mean rate of 13.7 per cent, the Office workers and Professionals had a mean rate of only 1.8 per cent. In other words the Labourers had a mean rate of almost eight times the rate for the Office workers and the Professionals. So in terms of the incidence of unemployed the Labourers carried a burden of 39 per cent while the Office and Professional workers had only 5 per cent of the burden.

TABLE VII-2

1965-70 MEAN RATES AND DISTRIBUTION OF UNEMPLOYMENT

OCCUPATION	MEAN RATES	% DISTRIBUTION OF UNEMPLOYMENT
Office/Professional	1.8	5 %
Transport	5.7	16 %
Service/Recreation	3.9	11 %
Primary	4.6	13 %
Craftsmen	5.6	16 %
Labourers	13.7	39 %
		100 %

It is also interesting to note that Transport workers and Craftsmen carried the same burden of 16 per cent of the unemployed, while workers in the Service and Recreation jobs carried 11 per cent and those in Primary occupations had 13 per cent of the burden. It would be interesting to find out if the 1966 and 1970 distribution conforms to this pattern or not.

The data for 1966 is given in Table VII-3 where it will be seen that the Office and Professional workers still have the low burden of 5 per cent of the unemployed and that the Labourers have increased their burden by one per cent from 39 to 40 per cent in 1966. Similarly the Service/ Recreation workers and the Primary occupation workers each increased their burden by one per cent. The Craftsmen on the other hand improved their burden by two per cent from 16 per cent to 14 per cent in 1966.

TABLE VII-3

1966 OCCUPATIONAL RATES AND DISTRIBUTION OF UNEMPLOYMENT

OCCUPATIONAL GROUPS	1966 RATES	% DISTRIBUTION OF UNEMPLOYMENT
Office/Professionals	1.4	5 %
Transport	4.5	15 %
Service/Recreation	3.2	12 %
Primary	3.9	14 %
Craftsmen	4.3	14 %
Labourers	11.7	40 %
		100 %

Apart from this one to two per cent shifts in the distribution of unemployment the basic structure did not change in 1966.

The 1970 rates and distribution of unemployment are given in Table VII-4 where it can be seen that the Office and Professional workers have increased their burden of unemployment by one per cent from 5.0 per cent in 1966 to 6 per cent in 1970. Again as for the mean rates Transport workers and Craftsmen had the same burden of unemployment of 17.0 per cent

each. While the Primary occupational workers carried the same load of unemployment in 1970 as in 1966 of 14.0 per cent, the Service and Recreation workers improved themselves by two per cent from 12.0 per cent in 1966 to 10.0 per cent in 1970. Perhaps the important development in 1970 was the reduction in the Labourers' burden of unemployment from 40.0 per cent in 1966 to 36.0 per cent in 1970.

TABLE VII-4

1970 OCCUPATIONAL RATES AND

DISTRIBUTION OF UNEMPLOYMENT

OCCUPATIONAL GROUPS	1970 RATES	% DISTRIBUTION OF UNEMPLOYMENT
Office/Professionals	2.6	6 %
Transport	7.8	17 %
Service/Recreation	4.6	10 %
Primary	5.8	14 %
Craftsmen	7.9	17 %
Labourers	16.7	36 %
		100 %

Thus in conclusion the distribution of unemployment by occupational groupings was basically the same in 1970 as it had been in 1966. Because of the data limitation this six year period from 1965 through to 1970 has been used, but the results here obtained indicate that the occupational groupings were no more amenable to change than the other labour force groups studied. In short, the incidence of unemployment does not give the impression of shifting on the basis of occupational groupings over the six years studied. It is possible to assume that the situation would have been pretty much the same given the data for the whole period.

The Regression Analysis

Despite the data limitations the correlation and regression equations obtained were pretty good as will be seen in Table VII-5. The correlation factors were very high averaging 0.9 (R^2), while the standard error of estimate (s) is very small.

TABLE VII-5

OCCUPATIONAL CORRELATION AND
REGRESSION EQUATIONS

OCCUPATION	R^2	REGRESSION EQUATIONS	s
Office/Professionals	0.93000	$y = -0.372 + 0.476\ x$	0.04
Transport	0.88470	$y = -0.028 + 1.255\ x$	0.14
Service/ Recreation	0.87897	$y = 1.205 + 0.585\ x$	0.07
Primary	0.88562	$y = 0.850 + 0.818\ x$	0.09
Craftsmen	0.93130	$y = -0.466 + 1.341\ x$	0.11
Labourers	0.87560	$y = 5.614 + 1.788\ x$	0.21

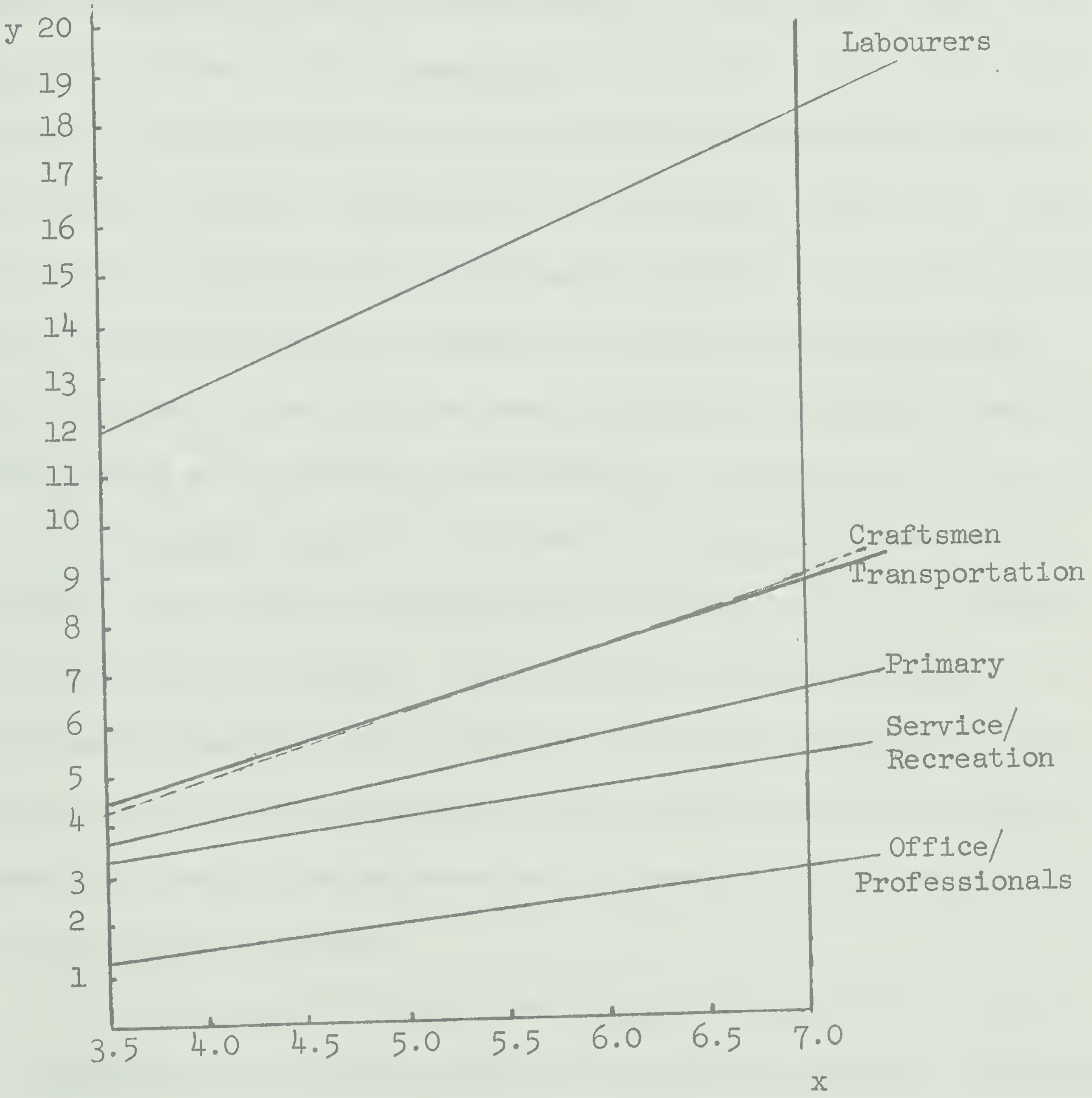
On the basis of the above regression equations an estimated occupational rates of unemployment were made using the procedure developed in the previous chapters. The estimated rates are given in Table VII-6 while the same data is plotted into regression lines given in Figure VII-2.

TABLE VII-6

OCCUPATIONAL ESTIMATED RATES OF UNEMPLOYMENT
FROM THE REGRESSION EQUATIONS

OCCUPATION	REGRESSION EQUATION	x = 3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
Off./Prof.	$y = -0.372 + 0.476x$	1.3	1.5	1.8	2.0	2.2	2.5	2.7	3.0
Transport	$y = -0.028 + 1.255x$	4.4	5.0	5.6	6.2	6.9	7.5	8.1	8.8
Serv./Rec.	$y = 1.205 + 0.585x$	3.3	3.5	3.8	4.1	4.4	4.7	5.0	5.3
Primary	$y = 0.850 + 0.818x$	3.7	4.1	4.5	4.9	5.3	5.8	6.2	6.6
Craftsmen	$y = -0.466 + 1.341x$	4.2	4.9	5.6	6.2	6.9	7.6	8.3	8.9
Labourers	$y = 5.614 + 1.788x$	11.9	12.8	13.7	14.6	15.4	16.3	17.3	18.1

FIGURE VII-2
OCCUPATIONAL REGRESSIONAL LINES



Looking at Table VII-6, it will be seen that the rate of change for the Office and Professional workers is 0.5 per cent for every one per cent change in the national rate of unemployment. It will be recalled that in the last chapter that same rate of change was found in the Service Industry and maybe this is because the Service Industry is dominated by the Professionals and Office workers in Medicine, Education, Administration, etc. The Transport workers on the other hand will respond to changes in the national rate of unemployment at a rate of 1.2 per cent, meaning that for every person unemployed in the office and professional occupations, at least two will be affected among the Transport workers. In the previous chapter Transportation as an industry had a rate change of 0.8 per cent. The Service and Recreation workers will respond at the rate of 0.5 per cent exactly the same as the Office and Professional workers. This is in line with the results obtained in the previous chapter that service as an industry was changing at the rate of 0.5 per cent. Those in the primary occupations the rate of change is 0.8 per cent compared to the rate of change of the Primary Industry of one per cent obtained in the previous chapter. For Craftsmen the rate of change is 1.4 per cent meaning that for every person out of work in the Service and Recreation jobs at least about three people will be unemployed among the Craftsmen. And lastly the Labourers will change by 1.8 per cent, the highest in occupational rates.

In conclusion, the regression analysis has provided us with useful estimates for future projection of occupational rates of unemployment given the national rate of unemployment. In this particular case the data is based on a six year period and might be less accurate compared to the eleven year period taken for all the previous studies. All the same

the results do emphasize the wide disparity between the Labourers with the highest rate of change and the other occupations while the difference between the Office and Professional workers is similarly emphasized especially with respect to Craftsmen and Labourers.

CHAPTER VIII

THE CONCLUSION

The purpose of this study has been to determine the incidence of unemployment in Canada for the period 1961 to 1970 with respect to regional and labour force groups divided along age, sex, marital status, industry and occupational groupings. Secondly, the data collected has been utilized to estimate the rate of change of each regional and labour force group unemployment rates given a change in the national rate of unemployment. This aspect of the study has been based on simple regression analysis using the equation $y = a + bx$, where x is the national rate of unemployment and y the labour force group rate of unemployment. The results from the incidence of unemployment and the regression analysis have been presented in Tables and Graphs, throughout the study. The question which arises at this time is__What has the study achieved?

It will be recalled that from all the analysis made relating to the incidence of unemployment in Canada for the period 1961 to 1970, the conclusion reached at the end was that the structure and pattern of unemployment has remained basically unchanged throughout this period. This conclusion amid the evidence of rapid economic growth and a complete unemployment cycle over this eleven-year period does suggest that the incidence of unemployment has been insensitive to these changes. Given this type of situation, it would seem improper to try to remedy the disparity of the incidence of unemployment be it among regions or labour

force groups using conventional economic growth theories. At the heart of this problem is the need to carry out studies on each labour force group unemployment structure in an attempt to uncover the causal factors. This study did not concern itself with causal factors and as such no firm policy implications can be made relating to reduction of the disparity in the incidence of unemployment among various labour force groups.

At the regional level it would seem that the best approach would be to design specific area programmes which take into account the peculiar nature of the problems in that area. This is because given an area which relies heavily on the construction industry with a large section of the labour force composed of labourers, the approach to the problems of unemployment would be different from an area based on manufacturing or service industries. It therefore seems from this analysis that at the regional level, economic growth did not have important structral changes which alone among other things would tend to influence a change in the incidence of unemployment. What therefore seems to have happened is a rapid economic growth on the existing regional economic base, with the results that the structure of unemployment has remained at large unaffected. If this indeed was the case then a possible approach to the problems of uneven distribution of the incidence of unemployment would be to transform the regional structure of the economic base. This is particularly so in the Atlantic Provinces, Quebec and to a large extent British Columbia, where unless the economic base of the region is transformed higher incidences of unemployment are likely to persist for a long time.

The results from the age, sex and marital status of the labour force indicate a very high incidence of unemployment among the 14 to 24

years of age of both sex. However, the incidence of unemployment is much higher for the male than for the female members of this age group. One important factor here is the large sector of this age group which is in schools and colleges and whose demand for work is highly seasonal mainly concentrated in the summer months. Besides, there is the fact that this section of the labour force in Canada is growing at a very high rate as was pointed out in Chapter I. Unlike the regional problem, the age, sex, and marital status problem is basically one of the ability of the economy to grow at a rate fast enough to absorb these young people.

The results from occupational and industry groups do indicate that the existing problems in unemployment disparity especially between regions and occupations is related to the economic base of that region. One way of altering this situation would be to effect change in the economic base for each region.

LIST OF FOOTNOTES

LIST OF FOOTNOTES

1. Economic Council of Canada: Fourth Annual Review, (Sept. 1967), p. 11-12.

2. Ibid.

3. Pietchinis, Stephen G. Canadian Labour Economics. McGraw & Hill Co. Ltd., Toronto (1970), p. 235.

4. Economic Council of Canada. First Annual Review, (Dec. 1964), p. 10.

5. Boehne, Edward G. "Recovery From an Inflationary Recession", Business Review. Federal Reserve Bank of Philadelphia, (Jan. 1971), p. 8.

6. Ibid. p. 11.

7. Willes, Mark, H. "The Fight Against Inflation: Barebone, Jawbone or Lawbone?" Business Review, Federal Reserve Bank of Philadelphia, (Feb. 1971), Footnote 7.

8. Economic Council of Canada: Sixth Annual Review, (Sept. 1969), p. 153-154.

9. Ibid. p. 103.

10. Walters, Dorothy. Canadian Growth Revisited, 1950-1967. Economic Council of Canada, Staff Study, No. 28, (1970) p. 10.

11. Officer, L. H. and Smith, L. B. (Eds.) Canadian Economic Problems and Policies, McGraw-Hill Co. Toronto, (1970), p. 37.

12. Brewis, T. N. "The Problem of Regional Disparities" in Mann, W. E. (Ed.) Poverty. The Copp Clark Publishing Co. (1970) p. 208.

13. Atlantic Provinces Economic Council, Fourth Annual Review, (October, 1970)

14. Economic Council of Canada. Fourth Annual Review, (Sept. 1967), p. 30-31.

15. Ibid. Sixth Annual Review, (Sept. 1969), p. 142-143.

16. Ibid. p. 209.

17. Ibid. p. 242-243.

18. Ibid. p. 30.

19. Ibid. p. 209.

20. Ostry, Sylvia, Unemployment in Canada, D.B.S. Ottawa, (1968) p. 5.

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7. Walters, Dorothy, Canadian Growth Revisited 1950-1967. Economic Council of Canada Staff Study No. 28 (1970).

APPENDICES A TO E

APPENDIX A

CANADA AND REGIONAL QUARTERLY UNEMPLOYMENT RATES
(Seasonally Adjusted)

		ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	B.C.	CANADA
1961	1	11.4	9.9	6.1	4.4	9.6	7.6
	2	11.9	9.8	5.8	4.6	9.0	7.5
	3	11.4	9.1	5.0	5.3	7.7	6.9
	4	10.4	7.7	4.8	4.6	6.8	6.2
1962	1	10.6	7.4	4.7	4.0	6.5	6.1
	2	10.7	7.1	4.1	3.8	6.6	5.7
	3	10.7	7.4	4.4	3.3	6.6	5.7
	4	10.8	8.1	3.9	3.9	6.9	5.9
1963	1	10.0	7.4	4.0	4.0	6.8	5.9
	2	9.7	7.7	4.0	3.8	6.3	5.6
	3	9.1	7.8	3.6	3.7	6.6	5.3
	4	9.1	6.9	3.5	3.2	6.1	5.1
1964	1	8.4	6.3	3.3	3.1	5.6	4.9
	2	7.3	6.5	3.4	3.3	5.8	4.8
	3	8.0	6.4	3.2	3.3	5.2	4.5
	4	7.7	5.9	3.1	2.8	4.6	4.5
1965	1	7.9	5.5	2.6	2.6	4.4	4.1
	2	7.8	5.7	2.8	2.9	4.5	4.2
	3	6.9	5.4	2.6	2.6	4.3	3.7
	4	6.1	5.0	2.1	1.9	3.6	3.5
1966	1	6.8	4.6	2.2	2.1	4.1	3.6
	2	5.7	4.8	2.3	1.9	4.7	3.4
	3	6.9	5.0	3.1	2.3	4.8	3.8
	4	6.3	4.6	2.6	2.2	4.9	3.6
1967	1	6.4	5.0	2.9	2.0	4.9	3.9
	2	7.1	5.3	3.2	2.2	5.1	4.1
	3	6.4	5.2	3.2	2.4	5.0	4.1
	4	6.7	5.8	3.5	2.7	5.8	4.5
1968	1	6.8	6.2	3.4	2.7	5.7	4.6
	2	7.5	6.6	3.8	3.2	6.3	4.9
	3	7.5	6.5	3.7	3.6	6.2	5.0
	4	7.7	7.0	3.4	2.8	5.6	4.8
1969	1	6.7	6.4	2.9	2.7	5.0	4.4
	2	7.9	6.9	3.3	2.8	4.6	4.7
	3	8.4	7.3	3.1	2.9	5.1	4.9
	4	7.6	7.4	3.4	3.2	5.3	5.0
1970	1	6.9	6.5	3.5	3.5	5.6	4.8
	2	7.3	8.1	4.4	5.0	8.3	6.1
	3	8.9	8.9	4.7	5.0	9.4	6.8
	4	8.0	8.0	4.9	4.9	8.2	6.6

APPENDIX B

MEN : QUARTERLY UNEMPLOYMENT RATES 1961 - 1969

	1	2	3	4
B1 MEN 14-19				
1961	17.5	17.0	16.0	14.8
1962	14.0	14.4	14.9	15.1
1963	15.1	14.4	13.7	13.1
1964	12.8	12.6	11.8	11.8
1965	10.6	10.9	9.9	9.2
1966	9.7	9.3	10.7	8.9
1967	10.0	10.7	10.6	12.7
1968	12.5	13.0	12.8	12.4
1969	12.4	12.7	11.8	12.4
B2 MEN 20-24				
1961	12.5	12.6	11.7	10.3
1962	10.5	9.4	9.4	9.8
1963	9.9	9.7	9.4	9.1
1964	8.6	7.8	6.7	7.9
1965	6.2	5.9	5.5	4.7
1966	5.0	5.3	5.9	5.2
1967	5.7	6.1	6.0	7.1
1968	7.5	7.9	7.7	7.8
1969	7.2	7.5	7.5	8.2
B3 MEN 25-44				
1961	7.6	7.9	7.2	6.1
1962	5.9	5.4	5.2	5.5
1963	5.4	5.3	4.9	4.9
1964	4.4	4.1	3.8	3.8
1965	3.6	3.5	3.3	2.8
1966	3.0	2.7	3.0	2.9
1967	3.2	3.5	3.6	4.0
1968	4.1	4.4	4.3	4.2
1969	3.4	3.9	4.1	4.2
B4 MEN 45 & OVER				
1961	7.4	7.6	7.1	6.3
1962	6.0	5.9	6.1	6.0
1963	5.9	5.4	4.9	4.7
1964	4.6	4.6	4.6	4.3
1965	4.1	4.4	3.6	3.5
1966	3.9	3.5	3.6	3.8
1967	3.9	3.8	3.8	4.0
1968	4.3	4.3	4.6	4.4
1969	3.9	4.4	4.8	4.5
B5 MEN 25 & OVER				
1961	7.5	7.8	7.1	6.2
1962	6.0	5.6	5.6	5.7
1963	5.5	5.3	4.9	4.8
1964	4.5	4.3	4.2	4.0
1965	3.8	3.9	3.5	3.1
1966	3.3	3.1	3.3	3.3
1967	3.5	3.7	3.7	4.0
1968	4.2	4.4	4.4	4.3
1969	3.6	4.2	4.4	4.3

APPENDIX C

WOMEN : MONTHLY UNEMPLOYMENT RATES 1961 - 70

YEAR	J	F	M	A	M	J	J	A	S	O	N	D
C1 WOMEN 14-24												
1961	7.2	6.3	7.1	7.0	6.7	6.2	6.2	6.3	5.8	5.6	5.8	5.8
1962	5.5	6.1	5.4	5.4	5.5	5.2	5.5	5.1	4.8	5.9	6.6	6.4
1963	5.8	6.3	5.9	5.7	5.7	6.1	6.1	6.4	6.0	5.6	5.6	5.1
1964	5.6	5.1	5.2	5.3	5.4	6.0	5.6	5.6	5.1	5.5	5.1	4.4
1965	5.2	4.4	5.3	5.5	5.3	5.2	5.1	4.5	3.7	4.3	4.4	4.9
1966	3.8	4.1	4.3	3.9	4.1	3.6	4.4	5.3	4.9	4.6	4.8	4.7
1967	4.9	5.6	5.1	5.4	5.3	5.1	4.4	4.6	5.0	5.2	5.2	5.6
1968	5.9	5.5	5.8	5.8	5.5	6.2	6.3	6.7	5.9	6.1	5.8	5.9
1969	5.7	5.8	5.8	5.9	5.9	5.7	5.7	5.6	5.9	6.2	7.0	6.5
1970	6.6	6.8	6.6	7.1	7.1	7.6	8.6	8.4	8.3	8.4	8.6	8.5
C2 WOMEN 25 & OVER												
1961	2.6	2.6	2.6	2.7	2.4	2.3	2.4	2.3	2.7	2.2	2.3	2.4
1962	2.2	2.3	2.1	2.2	2.2	2.4	2.4	2.2	2.4	2.0	2.3	2.0
1963	2.3	2.2	2.3	2.3	2.3	2.1	1.9	1.9	2.0	2.1	2.0	2.0
1964	2.0	2.0	1.9	1.9	2.3	2.0	1.7	2.3	2.0	2.1	1.9	2.1
1965	2.0	1.9	2.0	1.8	1.6	1.6	1.6	1.4	1.7	1.3	1.8	1.6
1966	1.7	1.7	1.7	1.6	2.0	1.9	1.4	1.9	1.8	1.8	1.9	1.7
1967	1.7	1.9	1.9	2.0	1.8	1.8	1.9	1.8	2.0	1.9	1.9	2.0
1968	1.7	1.9	2.0	2.1	2.2	2.3	2.2	2.3	2.2	2.2	2.1	2.3
1969	2.6	2.3	2.3	2.4	2.5	2.4	2.0	2.6	2.6	2.8	2.5	2.4
1970	2.4	2.6	2.5	2.5	2.8	2.9	2.9	3.0	2.9	3.3	3.5	3.5

APPENDIX D

UNEMPLOYMENT RATES BY INDUSTRY GROUP

(Seasonally adjusted)

		ALL INDUSTRY	PRIMARY INDUSTRY	MANUFACTURING INDUSTRY	CONSTRUCTION INDUSTRY	TRANSPORTATION INDUSTRY	TRADE	SERVICE
1970	1	4.7	5.0	4.9	12.7	3.6	3.4	2.5
	2	6.3	6.0	6.3	16.6	5.6	4.3	3.4
	3	7.0	6.6	6.6	18.8	6.5	4.8	3.8
	4	6.8	6.6	6.7	18.5	5.2	5.0	3.5
1969	1	4.2	4.8	3.9	10.5	3.7	3.0	2.7
	2	2.9	5.2	4.5	12.0	4.7	3.4	2.5
	3	5.0	5.1	4.4	12.3	4.3	3.5	2.9
	4	5.1	4.8	5.1	13.1	4.6	3.5	2.9
1968	1	4.5	4.7	4.6	12.6	4.3	3.1	2.5
	2	5.0	4.5	5.1	13.3	4.6	3.4	3.0
	3	5.2	5.3	4.4	12.9	4.6	3.5	3.1
	4	5.0	5.6	4.5	13.0	4.3	3.5	2.9
1967	1	3.8	3.8	3.7	10.1	4.2	2.7	1.9
	2	4.2	3.9	4.0	11.2	4.1	2.5	2.4
	3	4.1	3.7	4.1	12.3	3.8	2.6	2.3
	4	4.6	4.7	4.4	12.7	4.5	4.9	2.5
1966	1	3.5	4.2	2.9	9.4	3.5	2.4	2.1
	2	3.5	3.7	3.1	9.2	3.0	2.1	2.1
	3	3.9	4.3	3.6	9.1	3.8	2.6	2.1
	4	3.7	3.6	3.4	10.0	4.0	2.4	2.1
1965	1	4.2	4.3	3.7	11.0	4.2	2.8	2.5
	2	4.2	4.7	3.3	11.9	3.9	2.4	2.5
	3	3.7	3.9	3.4	10.4	3.7	2.4	2.2
	4	3.7	4.0	2.9	8.7	3.4	2.4	2.3
1964	1	4.9	4.7	4.3	13.3	4.6	3.5	3.1
	2	4.7	4.7	4.1	13.1	4.1	3.1	2.9
	3	4.5	4.5	4.0	13.1	4.0	3.3	2.6
	4	4.5	4.8	4.3	11.8	4.3	2.9	2.5
1963	1	6.0	6.3	5.1	16.3	5.0	4.1	3.2
	2	5.5	6.3	4.9	14.7	5.0	3.7	3.0
	3	5.2	5.9	4.9	13.7	4.8	3.4	2.9
	4	5.3	5.1	4.4	15.9	5.5	3.5	3.1
1962	1	6.3	6.2	5.8	18.4	5.3	3.8	3.2
	2	5.7	6.7	5.0	15.6	5.4	3.5	3.0
	3	5.6	6.6	4.9	16.7	5.3	3.8	3.1
	4	6.2	7.3	5.4	17.1	5.5	4.1	3.4
1961	1	7.9	8.0	7.5	21.7	6.7	5.0	3.9
	2	7.3	7.6	7.3	21.8	6.9	4.9	3.8
	3	6.5	7.8	6.1	20.9	6.1	4.5	3.7
	4	6.5	6.4	5.6	19.4	6.2	4.2	3.6

APPENDIX E

UNEMPLOYMENT RATES BY OCCUPATIONAL GROUPS

(Seasonally Adjusted)

		OFFICE AND PROFESSIONALS	TRANSPORTATION	SERVICES AND RECREATION	PRIMARY INDUSTRY	CRAFTSMEN	LABOURERS
1970	1	2.2	6.5	3.8	5.1	6.6	15.7
	2	2.7	8.8	4.7	6.0	8.4	17.0
	3	2.7	8.8	5.2	6.4	8.5	17.4
	4	2.8	7.2	4.7	5.8	7.9	16.8
1969	1	2.0	5.3	4.5	5.0	5.8	13.4
	2	2.0	5.8	4.0	5.1	6.3	12.8
	3	1.9	6.1	4.2	4.8	5.5	13.3
	4	1.9	6.6	4.3	4.5	5.6	14.0
1968	1	2.1	6.3	3.8	4.8	6.6	15.5
	2	2.1	5.5	4.7	4.8	6.6	15.2
	3	1.8	5.8	4.2	5.4	5.6	14.6
	4	1.7	5.1	4.1	5.0	5.6	14.3
1967	1	1.6	5.2	3.5	4.0	5.4	12.9
	2	1.6	6.0	3.5	4.0	5.3	12.6
	3	1.4	5.0	3.2	3.2	5.2	11.6
	4	1.6	5.0	3.5	4.2	5.4	13.5
1966	1	1.5	4.7	3.5	4.4	4.5	12.3
	2	1.4	4.3	3.2	3.9	4.0	11.7
	3	1.3	4.2	2.9	3.8	4.4	11.9
	4	1.3	4.8	3.0	3.3	4.1	10.8
1965	1	1.6	6.1	3.8	4.3	5.3	14.6
	2	1.4	5.4	3.7	4.7	4.8	14.3
	3	1.2	4.4	3.5	3.8	3.9	12.7
	4	1.2	3.4	3.2	3.3	3.8	10.9

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